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THE MODERN TREATMENT OF DISEASE BY THE SYSTEM OF MASSAGE.

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THE MODERN TREATMENT OF DISEASE BY THE SYSTEM OF MASSAGE:

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Three Lectures on this Subject delivered at the West End Hospital for Nervous Diseases, Paralysis, and Epilepsy, Welbeck Street, London.

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PREFACE.

It seems to me that Massage is destined to play a very important part in the future history of the human race, and, moreover, I feel confident, as one who has thought over the subject and practised it in all its details for some years, that in reference to the animal economy it holds a precisely similar position that modern engineering does to sanitation. The present system of drainage, if effectually carried out, keeps a house healthy and pure. The system of Massage, if properly conducted, tends to maintain the pure mind in the healthy body, and this, I hold, is what we should as physicians seek to promote. If this be done, we at once create a power of resistance to morbid cravings and immoral tendencies which are really a great scource of crime and pernicious habit, and which eventually

lead to sin, depravity, and disease. To the man of labour, who earns his bread by the sweat of his brow, Massage cannot be required unless there be disease, but to the mental toiler, whose habits are of a sedentary kind, the case is totally different, and the more especially if there be not the means or inclination to exercise. The wise will endeavour to manage their affairs so as to go to bed early and to rise early, to take horse exercise or rowing exercise in the early morning for one hour; and if this be done, I can only say to such as these, that they will not require Massage as an ordinary means to health. But I would point out that there are two stages in life apart from disease where Massage is really necessary to maintain health and promote bodily and mental vigour: firstly, in the growing child after lactation, especially if it be at all puny; secondly, at the advancing period of existence where the habits on account of occupation cannot be healthful, and degenerative changes are as a consequence becoming prematurely developed.

To all such I say, insure one hour's Massage, every morning, with the same regularity that you would perform any other natural office of everyday life.

These lectures on Massage have been and will continue to be delivered, and demonstrations will be given, at the West End Hospital for Paralysis, Epilepsy, and Diseases of the Nervous System, Welbeck Street, by myself; and on Electricity by my colleague, Dr. Herbert Tibbits,—to create a class of Masseurs and Masseuses, who shall be such not only in name but in deed. Nothing can be more grotesque or ridiculous (one might say, unprincipled) than to witness the abortive manner in which Massage is attempted by nurses otherwise well-trained and competent to perform nursing duties. Of the charlatan class, who are thoroughly ignorant, and who profess to have all kinds of wonderful unguents and electrical appliances, I have nothing more to say than to caution people against them. Lady Janetta Manners, whose wisely governed mind has done so

much to promote the well-being of every section of society in this country, has written an extremely interesting article on Massage in the *Nineteenth Century* for December, pointing out that it was practised by the Indians and the Chinese many years before the birth of our Savour, and that it was employed by the nations of the Orient to develop and maintain the vigour of the body. Lady Manners also states, that the system of Massage practised by Dr. Metzger has drawn crowds to Amsterdam, and has afforded relief to great numbers of sufferers; several reigning sovereigns, among others the Empress of Austria, being among his patients.

In these lectures, I have treated the subject of Massage from my own point of view, and the principles here enunciated are based almost entirely upon my own practical experience for the past twenty years.

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LECTURE I.

Reasons for these Lectures—Effects of Massage in States of Exhaustion, both of Mind and Body—Advice to Masseurs—Physical Conditions requiring Massage—Moral Massage as differing from Physical Massage—Physiological Effects of Massage—Anatomy and Physiology of certain Parts of the Body, namely, the Skin, the Muscles, the Vessels, the Nerves, the Joints, the Blood, the Circulation, Respiration, Secretion, Excretion, Temperature, Reflex Action and Stimulation—Changes in the Skin produced by Massage—Inanition Cured by Massage—The Brain of Man—The Nerve Cell, its Nature, Property, and Powers—Reflex Action—The Use and Movements of Joints—Condition of Joints after Inflammation—Veins and Arteries—Effects of Inflammation upon the Circulation—Changes in the Blood brought about by Massage—Infantile Paralysis—Increase of Temperature by Massage—Resistance to Galvanism overcome by Massage.

THE following are my reasons for giving these popular lectures on Massage:—firstly, Because I have been repeatedly solicited to do so; secondly, Because I feel sure (and I judge from a lengthened experience in private practice) that it is a very safe and efficient remedial agent when performed by competent and well-

Reasons for giving Lectures.

trained individuals; thirdly, Because it seems to be drifting into the hands of an unscrupulous and charlatan class of people who are ignorant of its most simple elementary principles; fourthly, Because, like Dr. Lyon Playfair, I hold the theory that the first duty of a physician is to cure his patient, and that it does not matter what means he employs for this purpose, provided they are such as he can adopt with clean hands and a clear conscience. I wish it to be clearly understood that these lectures will be absolutely free from scientific technicalities. I shall endeavour to arrange my matter in the most simple and intelligible manner, and I am particularly anxious to keep strictly within the bounds of practice, so that all who hear and see may become, by application and perseverance, skilled workmen and workwomen in the art of massage.

Definition of Term.

The term Massage is used by the French, and adopted by us, to denote various manipulations which I shall describe to you as we proceed, whereby

inactivity is made active, and apathy, atony, and indifference are made excitable, powerful, sensible, and sensitive. In other words, morbid inertia is transformed by massage into vital, active, and potential energy. It is a common practice in India and other eastern countries, even at the present day, to oil and massage the limbs of the wearied traveller, after which the feeling of tiredness disappears, and a sense of comfort and repose pervades the whole system. I notice this fact to show you that a tired, wearied, and exhausted nervous system can by external influences, without any help from the individual, be brought by gentle stimulation into a state of renewed energy. A wearied and exhausted nerve or sets of nerves produces the same condition in every part of the body to which these nerves are distributed; and knowing that the nerves and their centres are, as I shall demonstrate to you, the prime agents in the generation and conduction of nerve force by which every movement

Influence of Massage on Exhaustion.

of the body is called into action, performed, regulated, and governed, we can easily comprehend what the result must be when the nervous centres and the nerves become tired and unstrung. You may as well hope to get high notes out of a limp-stringed fiddle as power and energy out of an exhausted nerve. Remember this plain truth, and you will then see the force of my proposition. Fatigue and exhaustion, when not corrected by sleep and nourishment, are inevitably followed by irritability, instability, excitability, impetuosity, impotency, and in some cases pain and agony both of mind and body; such being the case, we shall at once see the object of massage. By the use of massage we tranquillize and soothe the brain and nervous system, and by so doing we induce sleep and we relieve pain, we ensure contentment and repose, and we bring about a feeling of happiness, yea, even cheerfulness, which is expressive, in the most unmistakeable manner, of the change which massage is capable of pro-

Effects of Fatigue.

Effects of Massage.

ducing. The mind which before massage is in a perturbed, restless, vacillating, and even despondent state, becomes after massage calm, quiet, peaceful, and subdued,—in fact, the wearied and worried mind has been converted into a mind restful, placid, and refreshed. The muscle which before massage is stiff, hard, and unyielding, or soft, flaccid, powerless, and unsympathetic, and which will not respond even to galvanism, becomes after massage the very converse of its previous self, and responds readily to the galvanic current. The nerve which, previous to massage, is a sluggish and lazy conductor of nerve force, and gives rise to painful and various other unpleasant impressions, is brought by massage into a healthy state of activity. The part which, previous to massage, is pale, cold, and insensitive, becomes by massage red, warm, and sensitive. The joint which is swollen, immovable, painful, and tender to the touch, becomes by massage natural, painless, and movable.

I could enumerate other points to show

Objects of Massage.

you how many are the objects to be gained by massage, but I have gone over just sufficient ground to give you confidence, and to lead you to believe and have faith and hope in the value of massage as a curative agent. But I

Real value of Massage.

consider the true value of massage really consists in its power to supplement the action of drugs and other remedial agents. No one would be mad enough to massage a joint in a state of active inflammation; but let the inflammation subside, and then by careful and well-conducted massage you bring the joint into a state of health and mobility, whereas, by leaving it alone, it would in all probability become stiff and immovable, and so cause the unfortunate patient to be lame and a cripple for life. Let me give *a word or two of advice* to those of you who are going to work at massage. Don't humbug your patients by trying to make them believe that you combine mesmerism or clairvoyance with massage, or that you have some wonderful compound that you

use which has properties known only to yourself, for proceedings of this kind will lead to no good. They will lead only to harm, and with the ultimate result that massage will lose the proper place which I believe it is destined to hold in the world of medicine. Thus far I have endeavoured to define massage, and show you some of the objects to be gained by it. If there is one saying in life of as great truth as any other, it is that 'there is nothing new under the sun;' and although massage was highly valued and recommended by the fathers of medicine and by others some thousands of years before the Christian era, yet even at the present day we find some men squabbling as to who was the first in the field of massage.

Origin of Massage.

There can be little doubt that there are classes of nervous patients of weak resisting power, of strong intellect, but of defective physical development, where the circulation is weak and languid, the temperament active and emotional, the special faculties acute, the extremities distressingly

Persons requiring more than mechanical Massage.

cold, and whose morbid sensitiveness often leads them into errors of conception and judgment, whose minds are as ill-balanced as their bodies, and who are living perversions of nature's great law of common sense, and who are truly neurasthenic in a more or less degree all their lives. Such as these require more than mechanical massage, and to massage such a patient with any hope of success is a totally different thing to massaging a knee-joint or a paralyzed limb, so that, as a matter of fact, massage must be divided into two classes, namely, Moral Massage and Physical Massage. The latter may be looked upon as purely mechanical, whilst the former is spiritual, physiological, moral, sympathetic, and intellectual. But I shall refer to this subject more particularly in my Second Lecture, when describing the qualifications which are necessary to the proper carrying out of massage as an art. Those of you who have read the Syllabus of these lectures will see that from my point of view the value of massage as a

Classes of Massage.

therapeutic agent extends over a wide area of disease, and the following points denote some of its special qualifications. It is useful—

Effects of Massage.

(1) To relieve pain in its wearing, wearying, and agonizing forms.

(2) To remove morbid matter and specific poisons from the blood, such as we know to be engendered by malaria, and such as give rise to gout, rheumatic gout, suppressed gout, etc.

(3) To give tone to the nervous system, and to the heart and pulse, and to restore power, energy, efficiency, and capacity to disabled, exhausted, palsied, incompetent, and impotent parts.

(4) To promote a healthy quality of blood and animal fluids.

(5) To remove congestions and insure functional activity of glands, skin, and mucous membrane.

(6) To promote, maintain, and equalize the heat of the body.

(7) To promote nutrition.

You will see, and also have practical proof

during the course of these lectures, that massage can do everything I claim for it.

I must now take your attention, if you please, to the elementary consideration of some points in the anatomy and physiology of

The skin,	The circulation,
The muscles,	Respiration,
The vessels,	Secretion,
The nerves,	Excretion,
The joints,	Temperature,
The blood,	Reflex action and stimulation;

and I would have you, if you please, remember what I am going to tell you about these subjects, for although the information will be of the crudest kind, yet it is necessary that you should have some knowledge of the composition of the human body and of the more common processes of life.

The Skin. The skin is, as you know, a sensitive membrane which covers the outside of the body, and corresponds to a similar and continuous membrane which lines the inside

of the body, which is called the mucous membrane. The skin is freely supplied with blood vessels and nerves, and the nerves derive their sensibility from the posterior columns of the spinal cord, but the nerves are rendered less sensitive than they otherwise would be by the horny outer covering of the skin, which is called the epidermis. You may shave off the epidermis without experiencing pain, but the sense of touch of heat and of cold show, clearly enough, that the terminals of the nerves extend to this epidermis, which when removed leaves a highly sensitive and raw surface, which is very painful to the touch, and ramified with blood vessels and nerves. I want you for one moment to consider with me what is meant by the sense of touch, because it is so essentially connected with massage. The perception of impressions by contact or touch is common to all parts of the surface of the body, but not in like degree; the nearer we get to the brain the more sensitive does the skin become. A current of electricity

Sense of Touch.

which can be well borne by the legs and arms and trunk, becomes extremely painful, and even dangerous, when applied to the neck and head. This variability to the sense of touch depends upon the development of the papillæ of the skin, also upon the proximity of the sensory nerves to their centres of origin, and also upon the integrity of the nerve centre, and the integrity of the conducting power of the nerve. You will find in the course of your practice, especially in cases of mental derangement and paralysis, that the sense of touch is not only blunted, but absolutely lost, whilst in other cases the parts are abnormally sensitive. These conditions of anæsthesia and hyperæsthesia are intimately associated with the nourishment of the part, and the nourishment of the part is controlled by the nervous force sent to the part by the agency of the brain and nerves controlling the circulation of the blood, and controlling also the temperature. The sense of touch is an index of the condition of the brain or of the nerves of

the spinal cord, and of the circulation, the nutrition, and the temperature. You will have in massaging to bear these points in mind, and you will find by practice that an over-sensitive and acutely painful part (take, for instance, the ovary) can be made not only less painful, but can be rendered absolutely painless. I may perhaps incidentally mention, that you will find all kinds of changes of sensation to touch in certain forms of paralysis, due to changes going on in the grey matter of the spinal cord; but to enter into these would be, under present circumstances, superfluous.

I must, however, before leaving this subject, not forget to call your attention to one practical fact of importance in reference to touch and sensation. It matters not whether the case be one of mental disease or of paralysis, the restoration of normal sensation and sensibility is a sure omen that your massaging is doing good, and that your patient will probably recover. The skin is one of the great emunctories

Value of the Sense of Touch in Paralysis.

of the body, and is in constant sympathy with the kidneys and the lungs; if you produce by massage determination of blood to the skin, you increase its activity, and you relieve the lungs and the kidneys by increasing the elimination of water, saline matter, carbonic acid, and urea. But I shall refer to this subject again, as it is one of very great importance. For the time we leave the skin, and say a few words about the muscles.

The Muscles.

The muscles are seen, when the skin is removed, as masses of red flesh, and when a limb is paralyzed or exhausted movement is suspended, because the power by which the muscle is made to act is either inadequate or cut off from the brain or from the spinal cord. I need scarcely tell you that all the principal movements of the body are performed by the agency of the muscles, of which there are two kinds, namely — the muscles which are under the control of the will, and called muscles of voluntary motion, with which the masseur has especially to deal; and the

muscles over which we have no control, and which can only be stimulated in a less direct manner, as, for instance, the muscular structure of the heart, the muscular structure of the lungs, the bowels, and the vessels. All muscles are controlled, governed, and regulated by nervous agency.

In these lectures I shall give you practical illustrations of wasted and powerless muscles, which have become so by disease in the spinal cord, as well as other examples, showing you how it is possible for the body to become a mere skeleton by the wasting of muscle from disuse, and want of adequate nourishment, where the spinal cord and nervous system is quite free from organic disease. In the latter instance there is usually extreme nervous exhaustion, and the patient's will is as defective as the nervous power.

It is in such conditions as these that massage is productive of such extraordinary results. We are greatly indebted to Dr. Weir Mitchell, of Philadelphia, for first

bringing to our notice certain practical facts in the treatment of these cases of nervous exhaustion, with nervous distaste for food, accompanied with great emaciation; and also to Dr. Playfair who has manfully, in spite of great professional opposition, carried out in this country Dr. Weir Mitchell's treatment with a fair amount of success. I will now give you, briefly, the history of one of my own cases, which indicates the change which took place in my patient by massage, rest, and generous diet.

This girl, aged fourteen, came under my care in 1880. She was thin, emaciated, unable to stand without assistance, the eyes were downcast, and the cheek bones were prominent from wasting of the cheeks, and the angles of the mouth were drawn down so that she looked the picture of misery, the voice was scarcely audible, and the least thing would make her cry; she was taciturn, shy, reserved, and morose. There was a general morbid state of functional inactivity, all the movements

were slow, and the mind was equally inactive, the breath was offensive, the tongue fairly clean, the bowels obstinately confined, and the evacuations pale and clay-coloured. The temperature was usually below normal, the hands and feet were cold, and the nails blue, pulse 120, respiration 20. The principal points in this case were: extreme emaciation, utter distaste and disinclination for food, great prostration, general wasting of muscles from disuse and want of nourishment. She was under my treatment for two months, which consisted of general massage for two hours every day, and a liberal diet with stimulant; at the end of this time the improvement was so marked that her immediate friends scarcely knew her.

In the *British Medical Journal* for November 6, 1886, is an article on Neurasthenia by Dr. Playfair, who gives drawings of a very remarkable and teaching case. I cannot, as my time is so limited, give you an account of it, but I send round the

drawings so that you may see the contrast of the condition of the man before and after treatment. I have had many cases of this kind, and my success has been uniform and sure. There can be no question of doubt that these conditions should be fully recognised, otherwise death from starvation is certain, and these subjects die if not properly treated, and they are said to die of dry consumption. I feel quite sure that massage is absolutely necessary for the recovery of this class of case.

The Brain and Nervous System.

We now have to consider the most important structure in the human body, namely, the brain and the nervous system. Of course I cannot even attempt to do justice to this part of my lecture, but I will endeavour, as far as it is possible, in a few words to give you a general idea of its importance. The brain of man is so much more highly developed than in any other living creature, that we at once come to the conclusion that he is the chief amongst all living beings. The

various processes of intellect and reason which emanate from the brain, and from the brain of man alone, is demonstrative proof that he stands forth as a distinct entity in the great universe of animal life. The complexity of the brain is beyond our comprehension, but we know from research that it is composed of parts in which are situated the mind and the intellect, the centres for the governance of our special senses, the centres for the governance of our movements, and the centres for the development of sensibility. Thus intellect, sensation, and motion are due to, and generated by, the nervous system, that is the brain and spinal cord. The brain may be compared to the mainspring of a watch, inasmuch as it keeps all the several parts in motion. Force is generated by the mainspring of the watch, by which the hands are moved with definition and regularity, and so in like manner is force generated by the brain and nervous system in order that every movement of our body may be effected. The brain and nervous

centres correspond to so many telegraph stations, whilst the nerves correspond to the telegraph wires which are constantly carrying communications from one centre to another centre. I don't think I can do better than give you the following propositions, which I quote from my little work, *The Brain and the Nerves, their Ailments and their Exhaustion:*[1]—

Man is the highest type of the combination and correlation of all known and unknown forces.

That we call this force nervous or vital force.

That one man is superior to another man by the development and the adjustment of vital force.

That health is the resultant.

That disease and death are the natural outcome of defect in the due formation and elaboration of this force.

That nervous exhaustion is the fore-

[1] *The Brain and the Nerves, their Ailments and their Exhaustion.* By Thomas Stretch Dowse, M.D., F.R.C.P. Edin. Bailliere, Tindall, & Cox, 20 King William St., Strand, London.

runner and prime agent in the production of all disease, functional and organic.

That each nerve cell or recipient and discharging element is united with its fellow, and ever ready when called upon to perform a certain amount of work, and when not in action it is silently storing up energy and force.

Excitement may arise in a nerve cell independently, without any visible external irritant.

We know that nerve cells possess an irritability which is perfectly normal, but we know also that nerve cells when exhausted possess an irritability and an instability which is abnormal. That nerve cells under such conditions lose their normal molecular and their normal tensile vibratory action. Thus nerve force is transmitted not rhythmically but spasmodically and jerkingly, or it may cease to be engendered altogether. The nerve cell, in fact, loses its inherent capacity and its normal power of resistance. It is under

such conditions that epilepsy is produced, that cholera and fevers kill, that a strong mind is brought under the control and influence of one which possesses in a higher degree will individuality. We may summarize the individual characteristics of a healthy nerve cell as follows :—

(1) To create nerve force, energy, and power.

(2) To store up nerve force, energy, and power.

(3) To maintain its own capacity for the reception of impressions.

(4) To impart nerve force, energy, and power in definite quantity and quality.

(5) To correlate its own special function with that of its fellows.

(6) To resist impressions with which it has no natural connection.

(7) To insure its own nutrition.

(8) To maintain a normal state of tension.

(9) To adapt itself to its environment.

When we massage a limb we stimulate the ends of the nerves with which the

limb is supplied, and which nerves convey motion and sensibility to the limb. This stimulus, or massage, is carried along the sensory fibres of the nerve (just as a telegram is sent) to the spinal cord, and thence to the brain; it is there received and duly acknowledged by the transmission of a return message through another set of nerve fibres to the part from which the message was primarily sent. This stimulation and response is called reflex action. If the nerve or the spinal cord is diseased or impaired, so that the communication is cut off, no reflex action results from any stimulus which may be applied to the nerve. I hold that the good results produced by massage, in mere states of nervous exhaustion, are due to this process of reflex action. The integrity of the nervous system can be tested by the absence or presence of well-known reflex actions; suffice it to say, we can have no better evidence of the good effects of massage when I tell you that previous to employing it reflex action

Effects of Massage on the Nerves.

Influence of Massage on the Nervous System.

has been with difficulty elicited, but after massage it has been obtained without difficulty, thus showing to absolute demonstration that massage has the power of renewing the vitality of the nerves and spinal cord.

The next part of the human body, the anatomy of which I have to bring before you, is the joints, and in the course of your work it is very likely that you will have more to do in this direction than in any other.

The Joints.

Joints serve two purposes,—they facilitate movement, and they limit movement; and it is necessary that you should carefully study movements in connection with joints. These movements are flexion and extension, abduction and adduction, rotation and circumduction. I now show you these movements, so that when you have a stiff joint to treat you may bend it in the way it should go. A limb is *flexed* when it is bent, *extended* when it is straightened out; it is *abducted* when it is drawn away from the middle

line, *adducted* when brought to it; it is *rotated* when it is made to turn on its own axis, *circumducted* when it is made to describe a conical surface by rotation round an imaginary axis. Now let us apply these forms of movement to the joints, and we shall see in what manner they correspond. The best examples of a joint which admits only of *flexion* is that of the elbow and ankle, and they are for this reason called hinge joints, because they are just as a door which can only be made to move in one plane upon its hinges.

Movements of Joints.

The two joints which admit of the greatest amount of movement are the shoulder and the hip; these are called ball and socket joints, because, as you can see, the spheroidal surface of one bone plays in a cup, furnished by the other bone. In the shoulder joint, we have flexion, extension, rotation, abduction, and adduction. The other joint to which I have to call your attention is the pivot joint; the best example of which is afforded by the atlas

and axis, or two uppermost vertebræ of the neck. By the adaptation of the surfaces of these bones the partial rotation and nodding movements of the head are effected.

Structure of Joints.

In all perfect joints the opposed surfaces of the bones which move upon one another are covered with cartilage, and are contained in a sort of sac which lines these cartilages and the side walls of the joint, and which secreting a viscid lubricating fluid — the synovia — is called synovial membrane; and in addition to these structures, every joint is furnished with strong fibrous attachments—these are called ligaments, and their office is to keep the surfaces of the bones together, and to limit the movement in the joint.

Diseased condition of Joints.

In rheumatic and other inflammatory affections of joints all these structures become more or less involved, and the tissues are infiltrated with fluid which has penetrated through the walls of the vessels from the blood: these effused fluids are called exudations; if these exudations are not absorbed by the lymphatics, or if they do

not degenerate by bacterial influence into pus, the result is the formation of cicatricial tissue, by which the parts are made to adhere to each other, and the joint becomes changed from a movable to an immovable structure. In this instance we have presented to us a local condition which is not at all uncommon, and if not treated at the right time, and in a skilful manner, by movement and massage, the result must be a disabled limb. On the other hand, experience tells us, that we can by massage overcome these inflammatory exudations and bring about their absorption. There can be no doubt that the treatment of these conditions by prolonged rest has been productive of the most unfortunate results, and many persons have been made to suffer for life all the discomforts of a stiff leg or arm, when timely interference might have overcome all these difficulties.

Effects of prolonged rest in Joint Disease.

The next thing which we have to consider is the system of vessels by which the blood is allowed to circulate through

the body to and from the heart. Now
The Heart and Circulation.
the heart is the centre of the circulation, and you will see its position by the diagram. It is situated in the chest, to the left of the median line; the right side of the heart receives the venous blood, and the left side pumps out the arterial blood. The heart is made up of bundles of muscular fibres, which are constantly alternating between contraction, on the one hand, and relaxation, on the other. In
The Circulation.
order that the circulation of the blood should be carried on efficiently in every part of the body, we find two sets of vessels, named arteries and veins. The arteries carry the arterial or red blood from the heart, whilst the veins carry the dark venous blood to the heart. Remember that the venous and the arterial are two distinct circulations, taking opposite directions. You will now see why it is that the masseur is directed to manipulate from the extremities towards the trunk of the body, that means towards the heart. In

chronic disease and in chronic inflammations, the circulation through the veins is much more sluggish than through the arteries, and it is for this reason, more especially than for any other, that the venous flow should be assisted rather than retarded. I have had the following question put to me on several occasions :—

Massage in Heart Disease.

'Do you think massage likely to do harm if the heart is diseased?' My answer has been that I know of no form of heart disease where massage is likely to be harmful, unless it be in the extreme fatty heart associated with dilatation. Valvular disease of the heart does not contraindicate massage. In cases of valvular (mitral and tricuspid) disease, massage is exceedingly valuable on account of its influence in stimulating the peripheral circulation, and preventing dropsies and stagnation of the blood in the extremities. I am inclined to think that the good effect of massage upon the veins has not been thoroughly understood and appreciated. The veins do not contain, like the

Effects of Massage on the Veins.

arteries, muscular and elastic tissue; the walls of the arteries are strong, highly elastic, and made up chiefly of elastic, fibrous, and muscular tissue. But the walls of the veins are thin, and the blood flow is aided by means of valves; it is therefore quite evident that if the venous circulation be sluggish, massage must aid it very much indeed. There is another system of vessels which I must not forget to mention, namely, the lymphatic vessels. These may, in a way, be considered as part of the venous system, and every facility is afforded for the lymphatic fluid to enter the veins, but the venous blood cannot enter the lymphatics because it is shut off by valves. The valves of the lymphatics are more numerous than of the veins, so that when the muscular system is stimulated by massage the muscular fibre contracts, and so squeezes onwards the lymphatic fluid. The German idea is that much of the benefit derived from massage is due to the power which it exerts in promoting absorption by this

Lymphatic Vessels.

channel. In speaking of the effects of massage in my Second Lecture, I shall refer to this subject again. Having told you as much as I think it is necessary for you to know,—but by no means as much as you can learn for yourselves concerning the heart and the blood vessels,—I will now direct your attention to the nature of the blood and the lymph; for the reason that these fluids are intimately and absolutely associated with the nourishment of every structure of the human body. Their presence or absence in undue quantity is remedied by the various processes of massage. If you tie a piece of string around your finger, the end of the finger immediately swells and becomes dark coloured, owing to the obstruction to the return of the blood in the veins. Now I wish you, please, to remember this, that the same state of things which takes place at the end of the finger, when the finger is tied, also takes place in two ways within the part, without any external agency, viz. when the vessel becomes plugged by

Nature of Blood.

Effects of Obstruction to the Circulation.

a clot, and when the vessel becomes contracted by nerve influence. In inflammation the walls of the vessels are paralyzed, the blood is retarded, and clots form in the vessels. I might here, perhaps, tell you that the greatest danger which can attend the process of massage is to separate these clots from their surroundings, and so allow them to be carried into the circulation. The blood forms, on an average, about one-tenth of the weight of the body, and the use or function of the blood is to supply nourishment to, and take away the waste products from, all parts of the body. The proverbs, that 'blood is the life,' and that 'blood is thicker than water,' are literally true. The presence of blood in every part of the body is essential to its existence, and it is absolutely necessary also that every part should be in such relation with the current of blood that matters can pass freely from the blood to it, and from it again to the blood. This is effected by what is called transudation through the walls of the vessels in which the blood is contained.

It is brought about by massage, and I shall give you a practical demonstration of this when we come to consider the temperature as influenced by massage. If the vessels of a limb of a living animal be tied in such a manner as to cut off the supply of blood from the limb, without affecting it in any other way, all the symptoms of death will set in. The limb will grow pale and cold, it will lose its sensibility, it becomes immovable because the muscles refuse to act to the will; in fact, the limb is much in the condition of this poor little child's leg—it is in a state of paralysis. But if the ligatures are removed from the vessels, the blood is allowed to flow into the limb, the temperature rises, the sensibility returns, and we find the limb restored to its normal state. Now precisely the same thing occurs through the influence of massage, as we shall see in a future lecture when speaking of the effects of massage.

Effects of ligaturing a Vessel.

You will often find your patients pale and bloodless, and you will also find that

they will become of a more healthy colour by the influence of massage; so from this it is quite evident that the blood improves in quality. The blood which in the pale state is thin and watery, becomes through the influence of massage thick and of a brighter colour. I should like to give you if only an idea how this change is brought about, because it is a phenomenon which must come under your notice every day of your lives, and, therefore, you ought to know something about it, even if that something be ever so little. If a drop of blood be magnified, it will be seen to consist of fine red sand-like particles floating in a watery fluid; these particles are called corpuscles, and the fluid in which these particles are suspended is called plasma. Now I want to call your attention to these particles or corpuscles, and to these only. They are of two kinds, and called respectively red corpuscles, and white or colourless corpuscles. In the healthy condition of blood there are not more than three or four of the colourless corpuscles to every thousand

Constitution of Blood.

of the red corpuscles, but this number increases after food, and in certain conditions of disease, notably in diseases of the spleen and of the lymphatic glands, and in certain forms of nervous disease. The red corpuscle of the blood is the highest development of living matter, prior to its building up and becoming converted into organized tissue, so that a healthy blood cell containing healthy pabulum or globulin, with its normal amount of colouring matter or hæmatin, is the conveyor of nourishment to all parts of the body. When the blood is unhealthy, nutrition becomes defective; but by kneading, pinching, and otherwise stimulating the soft structures of the body, the circulation is quickened, the temperature is raised, oxidation and other chemical as well as dynamic changes are effected, and the parts not only become nourished by this process, but, what is perhaps of equal importance, waste matters are got rid of. Professor Huxley in his little work, entitled *Lessons on Elementary Physiology*, says: Oxygen is the great sweeper of the

economy. Introduced by the blood, it is absorbed into all corners of the organism. It seizes upon the organic molecules which are broken down by their work, lays hold of their elements, and combines with them to form the new and simpler compounds, carbonic acid, water, and urea. And in doing all this the oxidation—or, in other words, the burning of these effete matters—gives rise to an amount of heat which is as efficient as a fire to raise the blood to a temperature of about 100°, and this hot fluid, incessantly renewed in all parts of the economy by the torrent of the circulation, warms the body as a house is warmed by a hot-water apparatus.

Lymph may be regarded as blood without its red corpuscles, and a quantity of fluid equal to that of the blood is probably poured into the blood daily from the lymphatic system. I have told you how the temperature of the body is raised by the burning of effete matters by the aid of oxidation. I want now to demonstrate to you, by actual experiment, how the tem-

perature of the limb can be raised by massage, and with this I shall conclude my lecture for to-day. I am quite aware that the subject has been somewhat dry, but you may rest assured, if you want to rise above the ordinary medical rubber, you must carefully study every point which I have brought before you. If you do so, you will take an interest in your work, and the public will soon find out if you are worthy of your hire. About twelve months ago I wanted a shampooer for a Turkish bath, and I called at several large nursing institutes without success; but the proprietor of one of these institutes informed me that he had plenty of masseuses, but he had not a shampooer. He had no conception that a good masseuse must be a good shampooer, and a great deal more.

Raising of the Temperature by Massage.

This pretty, bright, happy little fellow that I now show you, became paralyzed and lost the use of several limbs when about eighteen months old. He is now growing up an intelligent boy, and, as the

Case of Infantile Paralysis.

matron often remarks, he is good-natured, amiable, and sweetly disposed, and deserves everything that is done for his cure; but it is really pitiful and sad to a degree, that this child, so favoured in other respects by nature, should be destined to grow up a helpless cripple. Fortunately, by the use of electricity and by the aid of massage, I hope we shall convert this lame little sufferer into a condition by which he will be able to go out into the world to earn an honest living and be independent of charity. He has now been some time in this hospital, and already great improvement has taken place. When I first saw him, the lower limbs were shrivelled, and cold to the feel as ice, and almost immovable. Now they are regaining power, and he can stand with help; the limbs are developing firm flesh, as you may see and feel, and if he progresses in the way he has done during the past six months (and let me tell you, this progress is entirely due to galvanism and massage), I feel sure that he will be able to walk by

himself. Now I consider this exceedingly satisfactory, not only to the physician, but also to the nurse who has galvanized and massaged the case; and let me tell you at once, that medicine is worse than useless; all that is required is warmth, galvanism, massage, fresh air, and nourishing diet.

Cripples for Life.

You will often see men moving about upon crutches with their lower limbs completely wasted, who, when they were children, suffered as this little child did, and who were treated by rest and cod-liver oil, or who had their tendons cut by the orthopœdic surgeon with no good whatever resulting. You will very naturally ask me the cause of this form of paralysis, which some of our good friends on the Continent mystify by the name of Anterior Polio Myelitis. When speaking to you of the nerves of motion, which are the nerves specially affected in these cases, I told you that they arose from the anterior horns of the spinal cord, which I now point out to you, and it is the cells of

these horns of grey matter which are diseased, and so rapidly produce paralysis and wasting of the limb and loss of temperature.

Demonstration of Rise of Temperature by Massage.

I wish now to show you what we can effect in raising the temperature by massage. This morning I took the temperature of this child's limb very carefully at the inner part of the leg (the temperature of the ward being 64° F.), and I found it was below 70° F. After ten minutes' manual petrissage, the temperature of the limb had risen no less than 17° F.; that is to say, the temperature before massage was under 70° F., and after massage it was 87° F.

Mrs. Brown, our matron (who is a skilled masseuse), last night petrissaged the limb for twenty minutes, and the temperature rose to 94½° F. We cannot over-estimate the value of this sign of the good result of massage, for increase of temperature indicates increased vitality, increased tone, increased vigour, and renewed health. The reaction to the

galvanic current before and after massage is of great interest, and I must say a few words about it by way of conclusion to this lecture. In this little child that I exhibit to you, we have a common instance of the usual reaction to faradization and to galvanism. In infantile paralysis, during the acute stage of degeneration, we find an hourly decreasing response to the faradaic current, until in three or four days the paralyzed limb ceases to respond altogether. At this time we find that the nerves in all probability have ceased to respond to the galvanic current, but the muscles respond to a less current than in health (myotatic instability), until they too cease to respond altogether. When the child first came into hospital, this, what we call the reaction of degeneration, was well marked; but, thanks to massage and galvanism, the nerve centres or nervous grey matter of the anterior horns of the spinal cord has regained, by development, a great part of its original vitality. And now, what do we

find? Instead of an absence of muscular response to both galvanic and faradaic currents, we find decided activity in both muscles and nerves to either current, but more to galvanism than to faradization; but what I finally am anxious to show you is this: I apply the poles of the battery to this limb, and the galvanometer shows me that eleven milliamperes are required to produce muscular and nerve reaction (the temperature of the limb is 70° F.). I now massage the limb, and I find the temperature 95°, a rise produced by massage of 25°. I will now apply the poles of the battery to the limb, and if you watch the needle of the galvanometer, you will see that instead of eleven milliamperes, only five milliamperes are required to bring about muscular response. This is evidence of the most decided kind that massage lessens the resistance and increases the vitality of the limb.

LECTURE II.

Meaning of Moral Massage—Influence of Moral Massage—Mental Pain—Influence of Moral Massage on Pain—The Individuality of the Masseur and the Masseuse—The Massage Hand—The Health of the Masseuse—Advice in Reference to Bodily Health—Hours for the Operation of Massage—Duration of the Operation—Massage as a Tonic—Effects of Massage on the Pulse and the Temperature of the Body; in Chronic Swellings, particularly of Joints; in Sprains of Joints—Treatment of Sprained Joints—Effects of Inflammation—Vitalized Energy—Mechanical Energy—Preparation of Patient—Illustrations of the Influence of Massage—Terms applied to Massage Processes: Effleurage, Petrissage, Tapotement—These Processes demonstrated upon the Human Body—Dr. Weir Mitchell's Process—Tapotement in Lumbago—Massage combined with Electricity.

IN my last lecture I gave you some idea of the objects to be gained by massage, and of the anatomy and physiology of those parts of the human body which are chiefly influenced by manipulation. My present lecture will possibly be more interesting, inasmuch as it will be more practical. I told you when we met upon

the last occasion, that I divided massage into two distinct classes, namely, Moral Massage and Physical Massage. By the former I mean massage not only by the hand, but by the spirit, by the will, and by the intellect. By the latter I mean massage by the hand pure and simple, in fact, mechanical massage or medical rubbing. All who have had experience in manipulating the body by the hands and by the fingers, must have been occasionally struck with wonderment when they feel and respond to the influence they are exerting upon their patients. I know of nothing more fascinating than this form of moral influence, which I admit is frequently the outcome of a peculiar individuality which can neither be taught nor acquired. This intuitive moral faculty or individuality of impression can only be engendered by the special influence which a strong mind invariably has upon a weak one. Remember it is not the brute form of mind which possesses this faculty, not the mere mind of courage

Physical and Moral Massage.

Moral Massage.

and daring which resists everything and is at the same time devoid of reciprocity; it is rather the mind of sympathy with decision, the mind which is associated with natural affection, the mind full of purpose guided by confidence and success, full of hope and disdainful of failure,—such a mind, in fact, which rallies a beaten army, endows the soldier with courage, crushes dread and fear, and leads him on to death or victory; such a mind can so influence fellow-minds as to raise up a storm of rage and indignation, or a feeling of sympathy akin to love, or a sense of admiration, fascination, bewilderment, amazement, and stupefaction. It is a power which is capable of cultivation; it is a power which appeals to the senses rather than to reason; it is a power, in fact, by which influence and control are exerted and made evident and manifest. Although I feel that I am treading upon dangerous ground, still I cannot leave this subject, which appears to me of some importance in discussing the meaning of moral massage, without

Power of Will.

drawing your attention to the special influence it exercises over moral or mental pain. In all matters relating to pleasure or to pain on the moral or the emotional side of human nature, I am unable to draw a definite line of demarcation between such conditions and the pain which is associated in a part injured or disabled and diseased. The more I become acquainted with the varying phases of aberration of reason, and moral and mental change, the more am I convinced that every mental process—that is, every process of ideational transformation — has its analogue in certain physical transformations,—not of the brain alone, but of the sensory side of the body generally; and if this be so, we can the more readily understand why a mind blunted to ordinary moral impressions is invariably associated with a body whose physical sensibility is in like manner impaired.

Massage and Pain.

Mind and Body.

We can instance this a little further. A mind diseased with exalted, perverted, and exaggerated ideas, delusions, or even

hallucinations, is invariably associated with a body the sensibility of which is altered and perverted. The man who is deluded with the idea that he is the Prince of Wales, is very likely to put his hand into cold water and state it is hot, and to his perverted sensibility it feels hot, although to our ordinary senses, it is known as cold. I bring forward these few simple instances to show you how the mind and body work hand in hand, how the mind can influence the body, and how the body must influence the mind, and how essential the health of the one is to the health of the other. Unity is always strength; disunion means disintegration, disease, and weakness. If the individual mind and body are not united with correlative integrity, they are subjected to the influence, and subservient to the subjugation, of mind and body harmoniously united, which constitutes will individuality. Unity.

I think from these few remarks (and in a lecture of this kind I cannot go more deeply into this subject), you will perceive what I mean by Moral Massage. And

Mental Pain.

now for a word or two about mental pain as influenced by moral massage. The most common instances of imagined pain, or which is in reality the lowest form of mental pain, is instanced in those who are called hysterical; whilst the highest forms of mental pain are such as are associated with the optic thalamus and the grey matter of the convolutional cortex of the brain, or of the sensory side of the cord and nervous system generally. Mental pain may be instanced as a consciousness of that which disturbs the harmony of the mental factors. I need scarcely tell you that there are a thousand ills in life by which this unfortunate consummation can be realized; perhaps the chief of these are jealousy, love, religion, and avarice.

Physical Pain.

Physical pain is so well known to every one that I need scarcely give you an instance,—perhaps toothache is the most common and most widely diffused of all physical pain. Let me tell you that the physiology of pain is exceedingly mysterious. Physiology cannot yet define with

exactitude why the racking pain of a decayed tooth departs like magic at the sight of the cold steel, and perhaps does not return for months, if it ever does. The fearful pains associated with loco motor ataxy[1] are exceedingly peculiar, and demonstrate perhaps more clearly than any other form of pain how the moral and the physical are connected and correlated. Hence we find that even the worst form of pain will yield to the soothing influence of moral massage. Moral massage is both inductive and seductive: it works inductively by an act or process of reasoning from a part to a whole, or from particulars to generals; it works seductively, inasmuch as it leads astray by a process of delicate, and, to the sufferer, misleading manipulations, which are of a courting, wooing, and coaxing character. I will make my meaning understood. Supposing I were going to massage a painful spot which is not

Influence of Moral Massage.

[1] *On Nervous Affections associated with the Initial or Curable Stage of Loco Motor Ataxy.* By Dr. Stretch Dowse. Bailliere, Tindall, & Cox, 20 King William Street, Strand, London.

uncommon under the left breast. I should in all probability begin by effleuraging the part with the tips of my fingers, and the patient would in all probability declare she could not bear it. I should then turn my attention to petrissaging or pinching the similar spot on the opposite side of the body, until I had produced in it a decidedly painful impression. Continuing to massage this spot, I should keep my patient's attention fixed upon it, and I should then transfer, by a process of seduction, my massage to the original painful spot; and by so doing I should, by careful manipulation, soon have full play over the part which was the original seat of pain, and so exterminate it.

Individuality of Masseur and Masseuse.

We next have to consider the individuality of the masseur and the masseuse, and we will divide these into the physical and the moral; but we can, after what I have said of moral massage, consider them both together. Some individuals are utterly unfitted for this office, both by nature, by education, and by general development. I have no wish to lay

down a hard and fast line as to physical development, to the entire exclusion of a large number of persons who fail to come up to the exact standard; for it must be remembered, and it is a point to be borne in mind, that our patients to be massaged are not all of the same standard either mentally, morally, or physically. Young children, for instance, do not require the same standard of masseuse that would be required for a fully developed adult. The standard of individuality for the masseur or the masseuse may be thus defined :—

Standard of Individuality.

1. Good physique and good health absolutely essential.

2. Cleanliness in every particular is of the greatest importance.

3. An intelligent interest in the patient's welfare.

4. Perfect devotion and zeal in carrying out fully and carefully the duties of the work, so as to ensure the confidence of the patient.

5. Absence of fuss and undue haste.

6. Good temper and forbearance are necessary.

7. Intelligence, and even refinement, are advantageous.

8. A happy, cheerful disposition, with vivacity and brightness, dexterity, readiness, and ability, not forgetting a pleasant contented face, completes the standard of individuality. But now comes the important part of all, and that is, practice in the art. I need scarcely tell you that it is of no use your having all the qualifications necessary, for without practice you are useless. It is only practice in manipulations, guided by some knowledge of anatomy and physiology, which can make perfection in the art of massage.

Massage hand.

I now come to consider the massage hand, and it is a point of such great importance that I am constrained to speak of it separately. The natural position of the hand is certainly in a measure indicative of the character of the individual: for instance, the hand of the Venus de Medici is what may be termed the sensitive nervous hand,—there is the slightly drooping wrist, the extension of the metacarpo-

phalangeal joints, slight bending of the fingers with the thumb drawn backwards; whilst in the Diana of the British Museum, which is the typification of a strong woman, the hand is free, the wrist extended, and the fingers and thumb flexed. This condition of hand is usually considered to be indicative of will, determination, energy, and power; and it is well known that persons in whom the thumb is largely developed, have energy, will, and individuality. These are passing points of interest, and are worth remembering. The perfect hand for massage work should be soft, smooth, dry, and fleshy, and of good normal healthy temperature. The square hand with powerful thumb adductors is usually found most useful; but the following points in the nature of the hand are of unquestionable value, viz. muscular power, suppleness, pliability, flexibility, firmness of grip and compliancy to yield readily, impressibility, smoothness, fineness, warmth, even delicacy, and freedom from moisture, are essential. You will find that every part of the hand

must be made available, and there is no position which the hand and fingers can assume, as we shall see presently, which cannot be adapted to certain forms of massage.

State of Masseur.

Whilst considering the masseur, I am anxious to draw your attention to several points of the greatest importance. The first is, that you keep yourselves in good health, take three good meals a day, but never take stimulant until your work is over; then, provided you are in active work, you will find a bottle of stout and a good night's rest restore your energy, and equip you for the following day's work. Avoid working on Sundays, if you possibly can; and on this day get fresh air and natural exercise. Now, please to clearly understand me upon this point. If you are in active work you will have to conserve your energy in every way possible. You cannot, for instance, walk a mile, even to your patient; for, should you get to your patient flushed, hot, and wearied, you are doing yourself and your patient an injustice. And now, if you please, we will

Advice to the Masseur.

consider our patient from several points of view. The room should be of comfortable temperature, say from 62° to 65° F. The couch or bed upon which the patient is placed should not be too soft or yielding. As little as possible of the body of the patient should be exposed at one time. There is never any necessity to expose the abdomen; but the extremities and the back and loins can be worked better when uncovered.

Length of Massage Séance.

In general massage, one hour should lapse after a meal before the process is commenced, and the process should extend from thirty to forty minutes, twice a day, between eleven and twelve in the morning, and between five and six in the evening, or between twelve and one mid-day, and eight and nine o'clock at night. If a joint alone is to be massaged, then the process need not extend over fifteen or twenty minutes, but in cases of general paralysis and other forms of muscular wasting, the process should never be less than half an hour, and it should be repeated three times a day, namely, at eleven A.M., four

P.M., and seven P.M. Some writers on massage state that the duration of the séance should not last more than eight or ten minutes. This is all very well for an individual joint, but to say that the body should be slurred over in ten minutes simply shows lamentable ignorance.

Warmth after Massage.

After the operation is over, it is imperative that the patient should be made thoroughly warm, and be kept at rest for half an hour. I want you, if you please, to remember this question of warmth after every form of massage, whether local or general: 'Always endeavour to maintain the heat which your energy has generated and created.' When it is necessary for you to perform petrissage, and pinch and knead the deeper muscles, where you want to exercise energy and pressure, the skin can be advantageously washed with a spirit and ammonia lotion. What I commonly use has the following composition:—℞: Liq. Ammon. fort. ʒss, Aquæ Aurantii flor. ʒj, Eau de Cologne ʒj, Spirit Vini Rect. ad ʒviij. Vaseline and other tar compounds are

Preparation of Skin for Massage.

highly objectionable, and so are preparations bearing the name of electron.

I will now tell you something about the effects of massage, and I shall then complete the last half-hour of my lecture by practically demonstrating the various processes of massage, and how best to perform them. In speaking to you of the effects of massage, I am going over ground that I have, in part, gone over before in my First Lecture, but I did not complete that part of my subject. I may say that, as a rule without variation, the night process of massage has a calm, soothing, tranquillizing and composing effect. It is a very common thing for my patients to say, 'If it were not for the comforting effect of massage, I feel quite sure, from my sense of restlessness and irritability, I should have a bad night;' but the next morning, upon inquiry, I find the result has been just that which was anticipated. That massage allays a conscious sense of irritability, and brings about a soothing and calming influence, is a matter of everyday ex-

Effect of Massage in Sleeplessness.

perience, and, I may also say, a matter of history. Massage is a tonic; it invigorates, strengthens, animates the dormant powers and energies. It undoubtedly raises the temperature of the body generally. The temperature may fall slightly at first, as I have repeatedly found; but this is not from the effect of massage, it is due to some part of the body being exposed, and heat is thus lost by refraction. The effect of massage is to raise the temperature and improve the circulation, two of the most important points in cases of nervous exhaustion, where the feet and hands are usually icy cold and the pulse so ridiculously small and weak that at the wrist it can scarcely be appreciated.

Influence of Massage on Temperature.

In a patient, a young man whom I had under my care, the pulse at the wrist was so small, soft, and weak that it could not be appreciated prior to massage, but before the end of the séance it was felt quite distinctly. After a week's massage its presence could be detected at any time, although still weak. At the end of six

Massage and the Pulse.

weeks the pulse was full, about 80 to the minute, and the extremities were warm and comfortable. In cases of nervous exhaustion the respirations, like the pulse, are shallow and feeble, and sighing and yawning are frequent and common, and absolutely uncontrollable. After massaging the intercostal muscles and nerves, the respirations become deep and regular. The effect of bodily massage in improving nutrition, in cleaning the tongue, in regulating the bowels, and in clearing up the urine, are matters of everyday observation.

We will now consider some of the more practical and physiological results of massage. Dr. Friedrich Busch, whose excellent work on general Orthopœdics, Gymnastics, and Massage, which has been translated by Mr. Noble Smith, writes as follows concerning absorption by massage:—'As concerns the hastening of the absorption, we know from the experiments carried out for this purpose by Von Mosengeil, Lassar, Generisch, Paschutin, and others, that centripetal

Massage as an Absorbent.

rubbings, pressings, kneadings, as well as movements on the joints, hasten the lymph stream, and thus conduct the collected fluids more rapidly into the tissues. This experiment is quite confirmed in man also. Extravasations and exudations disappear more quickly when they are submitted to this mechanical treatment than when left alone. The increased surface of absorption by means of the dispersal of the collected fluid constituents over a larger area, their conduction towards the centre by the centripetal rubbings, the suction pump action which the muscular movement effects, the increased flow of blood which occurs after every massage, and which exhibits itself by redness of the skin and elevation of the local temperature, are the principal elements of the treatment.' The effect of massage in acute muscular pains and spasm of the neck (torticollis) and of the muscles of the loins (lumbago) is such that physicians are now beginning to recognise the fact, and it is found that these pains often disappear more quickly by massage,

Massage in Lumbago.

aided by stimulating liniments, than they do by repose, bandaging, cupping, blisters, injections of morphia, etc.

Massage and Joints.

I think it would be well to consider here the effects of massage upon sprained joints. Sprains of joints are so common, and massage is so useful, that I would advise you to give your close attention to what I am going to say in reference to this matter. When a joint is moved beyond its normal range of motion by some external force, the tendons and ligaments are severely strained and stretched, if they are not actually torn, and the articular surfaces of the bones are displaced. When this condition exists, the joint is said to be sprained. It is a common saying that a sprained joint is longer getting well than a broken bone, and this is perfectly true, because sprains as a rule are very badly treated. I have alluded to this in my First Lecture, but I will treat it more exhaustively now. You must, as I have told you, study anatomy of joints, and note the position of parts in

Treatment of a Sprained Joint.

relation to the joint, and then, if you have to deal with a joint injury, you will see how far the joint is distorted, and you will see, when you have placed each part in its proper position, the readjustment of these parts may be looked upon as the first step in the massage process. There are some people who hold the opinion, that a sprained joint may be lightly bandaged and massaged straight on every day until it is well. My experience leads me to the conclusion, that a sprained joint, such as the ankle, or the knee, or the wrist, or elbow, should be thoroughly extended, and when the parts are readjusted it should be very carefully, but very completely and thoroughly, strapped. Then the patient should be allowed to use it, but, remember, the joint should be encased in strapping, so that no giving or even yielding can take place. After a week or ten days, the plaister should be removed and massage commenced, and the joint itself manipulated. Every over-stretched muscle becomes by the strain cramped and tense,

and it is these painful muscular tensions which yield to the influence of soft rubbings, in the same way that lumbago does. 'The mode of manipulation' will be demonstrated in the Third Lecture. After a few operations the movements of the foot are tolerably free, and possibly painless, and then the patient may be permitted to use it with care, continuing the massage, as before, every day until it has resumed its normal strength. Whilst your attention is directed to the subject of joints, I must not forget to speak to you about the massage and movement required in the breaking down of adhesions which have formed, usually in the parts outside of the joint during the course of the inflammation, especially where the joint has been left alone for weeks. Hot spray and steam douches assist in softening these adhesions, whilst the masseuse manipulates it by rubbing, pressing, kneading, and, as Busch says, when the time has come for it, also by passive movements. The masseur proceeds slowly until mobility

Massage in Adhesions.

gradually becomes freer, and more active movements are possible. The ultimate cure of these cases depends upon the experience, the natural dexterity, and even strength of the masseur.

You must remember that adhesions of all parts are most common after acute and active inflammation. It may occur in the membranes of the brain and spinal cord, the sheaths of nerves, the connective tissue of muscle, the membranes of the eye and the ear, the covering of the lungs and the heart, of the liver, the intestines, the ovaries, and the uterus. How far these adhesions can be broken down by movement and by massage it is difficult to say, yet it is astonishing how much can be done by patience, perseverance, and skill. There is always a natural tendency of displaced parts to right themselves and regain their natural position, and massage is unquestionably a powerful auxiliary.

Now, if you please, we commence the business of these lectures. We have come

to consider massage proper, that is, to the definition and demonstration of the modes of manipulation and the degrees of energy imparted from the masseur to the patient. I am not going into the question of what is and what is not the difference between vitalized energy and energy imparted by mere mechanical aid. All that I care to know is this, and I am speaking from a large and thoughtful experience, that the two things in their effect are as distinct as the vitalizing agency of the sun in comparison with that of the moon. The patient being properly prepared, the masseur or masseuse appears upon the scene, lightly clad, with the arms bare above the elbows, fresh, vigorous, active, bright, and cheerful, showing a determination and a will to do battle with and conquer a hidden but a truly deadly foe. Please to understand me once more, the will of the masseur must be invulnerable; there must be no doubt, no hesitancy, no dread, no fear; the energy imparted must be accompanied with a sustained, innate,

Preparation of Patient.

Conduct of Masseur.

conscious effort of will and resolution to overcome every difficulty. If you commence the battle of massage in this way, depend upon it the victory is secure. If, on the other hand, you go about your work tired, indifferent, and doubtful, you only do harm to your patient instead of good, and your downfall is certain. There are four terms which are expressive of the modes of imparting energy by manipulations or massage, and these drawings will show you, and the position of my own hands will show you, how these processes of manipulating can be most effectually carried out. The four terms are—**Effleurage, Petrissage, Tapotement, Friction.** Before proceeding to demonstrate these manipulations upon the human body, I will first call your attention to these four pieces of layers of dough. No. 1 was prepared Tuesday, No. 2 was prepared Wednesday, No. 3 was prepared Thursday, and No. 4 was prepared this morning. If you feel these pieces of dough, you will find that they differ in what we call consistency. Now,

my object is to bring these pieces of dough together and weld them, so to speak, into one homogeneous whole. Now, in effecting this, I shall so manipulate the dough that I shall bring every form of massage to bear upon it to insure its transformation. Here, you observe, is **effleurage,** here **petrissage,** here **friction,** and here **tapotement,** with the result as you see. I now have a mass of dough of like consistency throughout. I have thus transformed inconsistency and heterogeneity into consistency and homogeneity by massage. I will now call your attention to this lemon. It is, as you know, a succulent fruit, of like consistency throughout. If I submit it, as I now do, to petrissage, by pinching it with my finger and thumb, and also with the muscles of my hand, and tapote it with my clenched hand, I produce great changes in the structure of this lemon. You see before massage its wall or skin covering was tough and unyielding, now you see it yields to effleurage, or mere stroking with the tips

of the fingers. I now cut it open, and what do you see? the organization of the orange completely broken. Such has been the energy which I have expended upon this fruit, that I have overcome its normal power of resistance, broken up and disintegrated its contents, and by what? By massage. These demonstrations are very simple, and they may appear almost ridiculous, but they are teaching, nevertheless. My demonstrations will now be carried on by the aid of the human body, and my first demonstration will be

Effleurage.

Effleurage. See fig. 1.

You will see by figs. 1, 2, and 3 what should be the position of the hand for this form of manipulation. I now have my right hand in the position for **effleurage.** I place my fingers and my thumb, which you see are fully extended, upon this man's chest, and I draw them slowly and lightly from above downwards. I now make a return movement quickly with the palm of my hand, and I again make my first movement, as you see, with the tips of my fingers and

with the outer edge of my thumb. These manipulations, constituting **effleurage,**

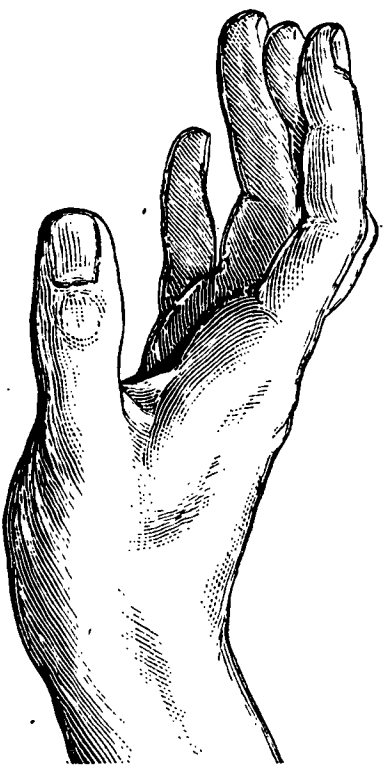

Fig. 1.

are made with the tips of the fingers and the palm of the hand; this form of stroking

movement with the fingers may be done softly or lightly, or with considerable energy. You will find that **effleurage** performed as lightly as possible after

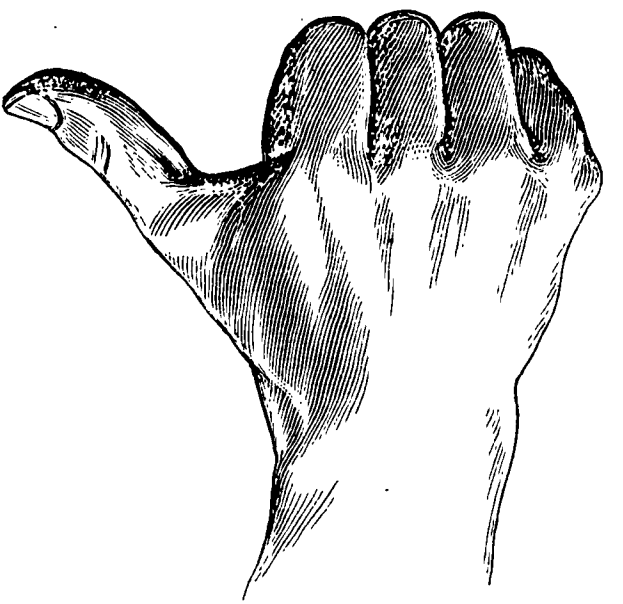

Fig. 2.

petrissage, for some few minutes, will have a decidedly soothing influence, and a vast deal of vital energy can unquestionably be thrown into the body of the patient in this

way. Such form of massage, when gently and continuously carried over the forehead, the closed eyes, and the cheeks, carries

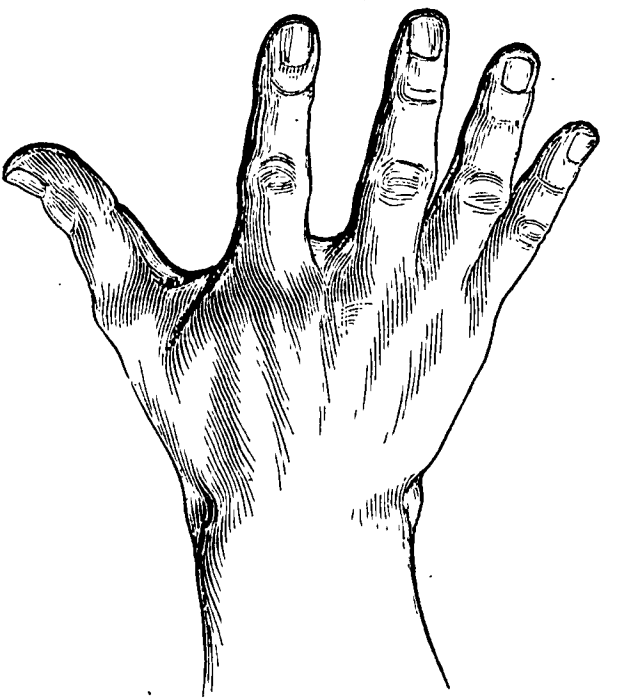

Fig. 3.

the patient from a state of mere repose to hypnotism, and they not unfrequently pass from this state into one of tranquil

sleep. You will, if you please, perceive that I never absolutely remove my hands from the patient's body, and in every form of massage you must, as far as possible, pay attention to this. Your centripetal movements, or those which are directed towards the centre of the body, are those in which the greatest amount of energy is and should be exerted, because, as I before told you, they are made in the direction of the venous blood and lymph stream. In fig. 3 you will see the hand represented in the manner my hand is now, and **effleurage** can be thus performed, and very powerful strokes can be made, by the knuckles and the palmar aspect of the wrist. I place my knuckles upon this man's chest so, and I draw them towards myself softly, or with considerable force, just as I please, but the action is slow and deliberate. When I get to the end of my journey I raise my knuckles and depress my wrist, which I carry quickly thus over the ground that my knuckles have just traversed. In

Centripetal Movements.

massaging you must remember that you can make the palmar aspect of your wrist the centre for some well-regulated and energizing movements; for instance, if I wanted to massage deeply and with considerable pressure, I should place the palmar aspect of my wrist upon the part to be massaged. With my finger tips horizontal to my wrist in this manner, I should then cause my wrist to partially rotate upon its own axis, guiding my fingers to perform a semicircle so. If you have a large and powerful thumb, you will find it exceedingly useful, and capable of real good work; it is astonishing how much power can be exercised by the thumb. I place my finger tips upon this man's chest, and I make them a fixed point; I then, you see, am able to work my thumb with considerable force and energy, in this manner, over a given area of about 90°. Well, now, there is another form of effleurage with which I am familiar, and which I find very useful for two reasons—firstly,

because it readily covers a wide area; and secondly, because it affords a means of relief to the masseur. I have bared my arm purposely to show you exactly what I mean. Supposing I had been massaging this man's back by the process of **effleurage** and **petrissage,** but I wished to continue with my work and my hands felt tired and cramped, I should then go to work with the ulnar and flexor side of my arm, in the manner I now show you. You will do well to bear this in mind, for I have frequently given myself great relief by adopting this mode of procedure.

Petrissage. The next form of massage to which I must now draw your attention, is what we term **Petrissage.** We look to this mode of manipulation to produce effects which no other form of massage can produce. I take this bit of skin between my thumb and forefinger, and I grip it firmly—in fact, I pinch it; I then roll it between my finger and thumb, in a manner somewhat similar to what one does in making a cigarette. This

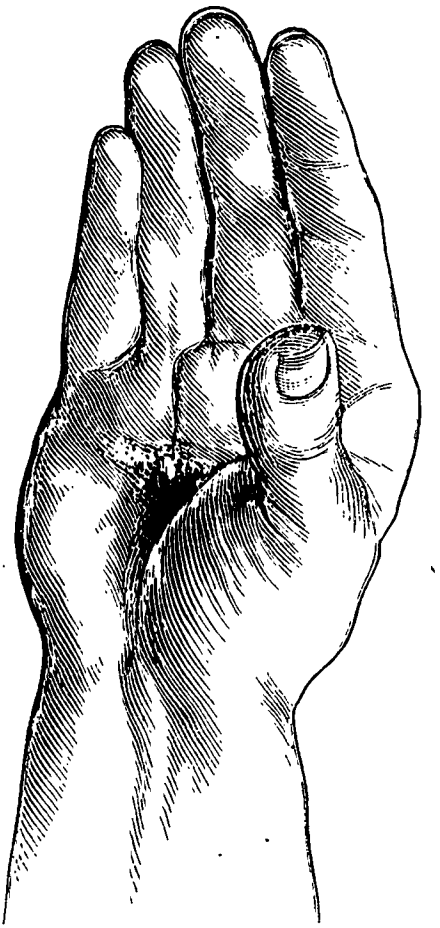

Fig. 4.

is the most simple demonstration of massage, **petrissage,**—pinching, pressing, and squeezing are its essential and main attributes. You will see the conformation of the **petrissage** hand in fig. 4. If you want to **petrissage** a mass of muscle you grip it firmly in the palm of the hand, in the same way that you see me grip the muscle of this thigh; you then make your way onwards or upwards from the periphery to the trunk (centripetally), like climbing up the rails of a ladder,—the same grip can, of course, be made thus between the fingers and the thumb, subjecting the parts to firm pressure, and rolling them and pinching them at the same time. By this process you exert a powerfully exciting action upon the lymphatic system and the capillary system of vessels, and so render active a deep-seated and sluggish circulation, and stimulate the venous blood-flow onward towards the heart. When both hands are employed, they move simultaneously and in the same direction, after

this manner. As in all other forms of massage, the movements must be uniform, steady, and defined; don't jump about all over the limb, but proceed in the way you see me now—inch by inch, and without taking your hand from the part. By this means you cannot fail to rouse dormant nerve energy, to make inactivity active, to produce a rise in temperature, and relieve dull and wearying muscular pains, and to restore nerve energy and power in the muscle. This particular kind of massage relieves what is so common in deep-seated muscles, namely, muscular stagnation. By relieving this in the manner just described, you make the muscular structure receptive of the nerve force which is sent to it, and thus it is rendered toned and active. This muscular stagnation may be instanced in a thousand ways; but it is particularly experienced by ladies at the change of life. When the circulation is interfered with, muscular stagnation is one of the commonest symptoms; the arms feel

heavy, so that to brush the hair can scarcely be accomplished; the legs feel so heavy, so wooden and lead-like, that it becomes a task to drag one leg before the other. Now this form of massage, or **petrissage,** has been in my hands of signal service in these cases, and its use here is most simple; the muscles are relieved of congestion, and the normal nerve force is expended equably and impartially to every demand made upon the nervous centres.

I cannot leave this form of massage, namely, **petrissage,** without drawing your attention to some remarks upon this subject by Dr. Weir Mitchell, of Philadelphia, in a very interesting little book entitled *Fat and Blood, and how to make them.* On page 54 of this little book (which I should advise you to get and read) you will find the following statement:—'After a few days on the milk diet with which my treatment usually begins, the masseur or masseuse is set to work. An hour is chosen midway between two meals, and,

the patient lying in bed, the manipulator starts at the feet. (Here I will demonstrate to you upon this patient what Dr. Mitchell has put into words.) I gently but firmly pinch up the skin of the foot, and roll it lightly between my fingers. I then, as you see, take each toe separately, and bend it at every joint. I then knead the muscles, and work with the finger tips and the thumb between the bones; and I finish with the foot by seizing it with both hands and rolling it about so. Now I deal with the ankle, working away at all the crevices between the articulating bones, and putting the joint into every possible position. The leg is now treated in this way by surface pinching, then by deeper grasping of the areolar tissue, and last, by industrious and deeper pinching of the large muscular masses of the calf, and for this purpose I put the limb in a position of the utmost relaxation. You will observe that my grasp of the muscles is momentary, and that I use both my hands for the large muscles of the calf

and thigh, the one contracting as the

Fig. 5.

other loosens its grip. In treating the firm muscles in front of the leg, the

fingers are made to roll the muscle under the cushions of the finger tips. At brief intervals I seize the limb in both hands, and lightly run the grasp upwards, so as to favour the flow of venous blood currents, and I then return again to the kneading of the muscles. I have now massaged this limb according to the directions laid down by Dr. Mitchell, and it is as perfect as any mode of massage can be; and you can judge for yourself if it is not the outcome of practical experience.

Tapotement.

The last form of massage which I think it worth my while to bring before your notice is called **Tapotement,** which means tapping, or percussing, or flagellating, or even tickling. The tapping may be done with the hand nearly closed, as mine is now, and as you see on fig. 5, or it may be done with an indiarubber ball fixed to the end of a piece of cane, or it may be done with a cat-of-nine-tails, or by the aid of Dr. Granville's perceutor. You know what an astonishing effect

tickling has upon a child. For instance, a child is moody, peevish, and fretful, due, probably, to the inhibition of some nerve by dyspepsia or constipated bowels. If you threaten the child with punishment, or send it to bed, or give it some task, you are really feeding the child's disease; whereas if, on the other hand, you cheer up the little thing, and if you give it a good tickling, you stimulate the child's nervous system; it actually laughs until it cries; its kidneys are stimulated, and its bowels too, and its bad temper vanishes.

The great value of **tapotement** is for the muscles of the loins and the back. You cannot well get at the deeper layers of these muscles by pinching or even kneading; but you can stimulate them by thumping and percussion in the manner I now show you. . . . After the parts have been massaged, I quite agree with Dr. Weir Mitchell that they should be lubricated with fresh cocoa oil, which keeps the skin in a smooth, soft, and supple

state, and also helps the part to retain the heat which has been generated. I have before mentioned, as soon as a part has been manipulated it should be covered with flannel. There is also another point referred to by Dr. Weir Mitchell which is borne out in my own practice, namely, that the early use of massage is apt in some nervous women to cause increased nervousness, and even loss of sleep; but these symptoms may safely be disregarded, because they pass away in a few days, and very soon the patient begins to find the massage delightfully soothing, and to complain when it is omitted.' I could say a great deal to you about the value of electricity in connection with massage; and my growing experience leads me to the conclusion, that massage and electricity should always be employed in association. If I get hold of a difficult case which does not yield to electricity alone, I employ massage, and, by the aid of the two, I am usually successful; and, on the other hand, if massage alone

does not answer, I associate it with electricity, and the like results. But the subject of electricity will be treated in an exhaustive manner by my friend and colleague Dr. Tibbits. At my next lecture I shall give you practical demonstrations of the modes of massage necessary to certain parts of the body for various forms of disease.

LECTURE III.

Consists of Practical Demonstrations—Length of Operation—Massage of the Head, Neck, and Spine; in Deafness; Headache; Tic-douloureux; Singing Noises in the Ears; Neuralgia; Loss of Voice; Giddiness; the Nerves of the Neck—Spinal Electric Massage in Headaches—Gymnastics for the Ear, Throat, and Larynx—The Vagus or Wandering Nerve—Thyroid Gland—Effects of Stomach and Spinal Massage on Digestion—Paralysis of the Gall Bladder—Turkish Baths—Massage in Constipation and Irregular Action of the Bowels—Massage of the Spleen; of the Kidneys; of the Ovaries—The Sensitive Ovary—The Painful Ovary—Massage of the Uterus—Massage in Spinal Exhaustion—Neuralgia of the Spine—Backache—The Tender Spine—Symptoms of Spinal Exhaustion—Chronic Spinal Exhaustion—Railway Spine—Case of Railway Spine—Diet of Nervous and Hysterical Patients—Stimulants in Nervous Exhaustion.

My present lecture may be considered the most practical of the three, and consists entirely of demonstrations, with some observations as I go along. To massage the surface of the body—and by the surface I mean the skin and the underlying connective tissue—you must employ effleurage and petrissage. Have the body thoroughly

To massage the Surface of the Body.

covered with blankets or eider-down, and only expose a certain portion at one time. You cannot do justice to the whole body surface at one séance. I take the limbs in the morning, and the trunk and the head and neck at night. And if you do your patient justice, it will take you forty minutes to complete each operation. In my last lecture I demonstrated to you Dr. Weir Mitchell's method of massage for the limbs, so that I shall have no occasion to refer to this again. The body surface generally must be treated in the manner that I have previously shown you. I will now direct your attention to the massage of parts, for certain conditions which we call disease. We will take first the head and neck, two very important parts of the body. I will put the question, What are the diseases of a common character where massage may be really useful, and which are common to these parts just named?—(1) Headache, and neuralgia of the fifth nerve known as tic-douloureux; (2) Neuralgia of the eyeball; (3) singing noises in

Massage of Head and Neck.

the ears, with giddiness (méniére); (4) loss of voice (hysterical dysphonia and dysphonia clericorum); (5) and spasm of the muscles of the neck and other muscles of the face. Before I proceed to massage the head for headache or neuralgia, let me tell you at once that massage for chronic headaches is of little use unless the spine be massaged as well, and I find even general massage to be sometimes necessary. Hysterical and nervous headaches, which are so frequently associated with neurasthenia, or nervous exhaustion, and which make life intolerable, are benefited by massage to the body as a whole, and also by massage combined with electricity to the spine, head, and neck. These headaches to which I allude, and which are the only kind I shall consider, although they are essentially of a nervous nature, are really congestive, and frequently of sympathetic origin; and they are much more common amongst young girls and women than amongst boys and men. They are usually intensified at the monthly

Head-aches.

Spinal Massage for Head-aches.

period (just prior to), and are invariably accompanied with functional irregularity of the ovaries and bowels; the left ovary is frequently tender to the touch, and the bowels are confined, the extremities are cold and almost livid, and the general facial appearance is not indicative of health; there is not unfrequently a feeling of tenderness about the top of the head in one or more spots; and we invariably find that all the spinous processes will bear pressure except the second and third dorsal, these are sometimes so acutely tender that ordinary pressure is productive of severe pain. I need scarcely say that patients in this state are of very variable temperament. At one time life is a mere dream of pleasurable bliss and excitement, at another everything is dull, cheerless, and gloomy. Now massage, with galvanism and faradization, will often work a marvellous change in these patients. My masseuse manipulates the extremities and the abdomen, and I then take the spine and the head and neck under my own

Spinal Tenderness in Headaches.

Massage with Galvanism for Headaches.

care for massage and galvanism. I invariably use the combined currents, and I begin by effleuraging the spine with the tips of my fingers, as shown to you in fig. 1; then with my knuckles so, as you will see in fig. 3; and lastly, with my wrist, holding my hand as I now show you. At the end of ten minutes the back becomes red, and increased in temperature, and no painful spot can be detected in this region. I now effleurage in this manner with my finger tips and thumb the back of the head and behind the ears, going from thence to the forehead, and so on to the neck. I consider the thorough manipulation of the side of the neck to be of the greatest importance, and I will ask you to look carefully at this dissection of the neck and see the position of the parts. The skin and superficial muscles have been removed, and you have exposed to view the three carotid arteries, which supply the brain with blood; and you see first, to the outer side, the jugular veins, which return the black impure blood from the brain. The

Demonstration on Effleurage.

white lines indicate the nerves, and I would call your attention to this one, which is called the vagus or pneumogastric nerve, because its area of distribution is wandering. You will recognise its importance when I tell you that it is the great nerve for the lungs, for the stomach, for the heart, for the larynx, the gullet, etc. Now, independent of this and other nerves, we find in this region of the neck a nerve which is called the cervical sympathetic nerve, whose influence upon the eye in maintaining and generating tonic force was first discovered by Claude Bernard. This distinguished physiologist found that when this nerve was divided the pupil became contracted, and the globe of the eye retracted, and the vessels of the head dilated; he also found, when the divided ends of the nerve were galvanized, that the vessels which were previously dilated became contracted, and the temperature was lowered. These nerves, according to Claude Bernard, which influence the heat of the head and congestion, arise from that

Sympathetic Nerve.

portion of the spinal cord about the second and third dorsal vertebræ, which I have previously stated to you is a tender spot in association with headaches. These are delicate problems in physiology, and I have merely alluded to them to explain to you the reason why galvanization and massage of the spine are so useful in headaches. Now, if spinal electric massage is so useful in headaches, it must also be useful in epilepsy and sleeplessness, and my experience goes to prove that this is no mere theory, but an actual fact; and it is of equal value for the same reasons in asthma, diabetes, and angina pectoris, and in disturbance of the respiration, loss of voice, and irritable heart, singing noises in the ears, etc. I will show you now the manner of massaging this portion of the neck for headaches and the organ of voice, the larynx; but before doing so, it would be well if I first showed you the way I proceed to massage the forehead for those painful affections of the head known as migraine, where only one-half of the head is

Spinal Massage in Epilepsy and Sleeplessness.

Massage for Headaches.

usually affected; and other painful affections of a like origin, as neuralgia, tic-douloureux, deafness, etc. By effleuraging or stroking the forehead and face, the temples, and behind the ears, so, I undoubtedly influence indirectly the sympathetic nerves, which, as I endeavoured to explain to you in my First Lecture, controlled the circulation of the blood through the arteries. I do not pretend to say how exactly this is brought about by this process; but by careful and dexterous manipulations and gentle strokings, a condition of hypnotism is induced, during which the pain disappears; but I have no faith whatever in this hypnotic agency producing anything more than the most transient results. I usually perform these manipulations whilst charged myself with electricity, and so convey the electric current by massage to my patient. My patient lying down does not rest his head upon the pillow, but his neck rests in this manner, so that the neck becomes somewhat but not unduly strained, and gives a better surface to act upon. I now use my

thumb of either hand on each side of the fore neck, simultaneously pressing the back of the neck at the same time with my fingers, and working my thumbs deeply in front, so, between the muscles and along the course of the vessels and nerves. Pressure on these large arteries of the neck is one mode of treating severe headaches and brain congestions and epilepsy; whilst massaging the larynx and the thyroid gland, say, for loss of voice or deficiency of tone in singing, I make my patient about every twenty seconds perform the act of gulping or swallowing,—by this means the larynx is raised, and I retard the too hasty return of the larynx to its normal position by upward pressure with my thumbs, so. About sixty of these manipulations with galvanism at the same time is wonderfully useful, and I call the process 'Gymnastics for the Ear, Throat, and Larynx.' It is not only useful for the voice, it is also very useful in some forms of deafness and throat irritability. The sympathy and sympathetic connections between these

Massaging the Larynx and Throat.

parts are well known and recognised by actual anatomical nerve connection through the agency of nerve ganglia. Let me tell you, however, that this special form of massaging the larynx in the manner just indicated is very useful in asthma and angina pectoris. I purposely refrain from giving you cases of my own as instances of the good results derived from this and other processes of massage upon different parts of the body, because, if I did so, it might happen that my motives might be misconstrued. I told you that this great nerve in the neck was called the vagus or wandering nerve, on account of its extreme area of distribution, and also because it is in association in its wanderings and distribution with so many other nerves. It is unquestionably one of the most important nerves of the body, and may be looked upon as the medullary nerve of breathing, and it also acts upon the heart as an opponent to the sympathetic nerve by inhibiting or checking its action. Therefore by massaging this part of the

Massaging the Pneumogastric Nerve.

neck, either simply or combined with galvanism, we regulate the action of the vagus nerve, and we also regulate the cervical portion of the great sympathetic nerve; and if we carry out the same process over the medulla at the back of the neck and down the spine, we act upon the spinal cord, and stimulate the sympathetic into life and energy when they become disordered and irritable, and do not perform their functions rightly.

Managing the Thyroid Gland.

I cannot leave the neck without calling your attention to the thyroid gland, whose function has never been clearly defined, but the loss of which is invariably associated with some remarkable changes in the nutrition of the body. This gland is sometimes considerably enlarged, and when it is so the persons are said to be suffering from goitre; usually it is accompanied with a train of nervous symptoms, but the more prominent symptoms are protrusion of the eyeballs and palpitation of the heart. Now we know that the cure of this disease by drugs and by chalybeate baths is

extremely difficult,—the best remedy that I know of is a two or three months' voyage by sea; failing this I am convinced there is no remedy so valuable as galvanic massage applied in the way which I have described to you for headaches, namely to the spine, to the back of the head, and to the sides of the neck. I am also sure that this form of massage with galvanism is useful for many of the more common defects of vision and colour blindness. And if this sympathetic nerve of the neck, with which you must now be familiar, were massaged and brought into healthy action, the eye doctor, the ear doctor, and the throat doctor would have comparatively little to do, and the spectacle maker would have to find some new occupation. I might say that the system of massage which I have just been referring to is of great advantage in aiding the stutterer to overcome the embarrassment which is engendered through the dead stop to which he is frequently brought in articulation on account of the loss of harmony and control which arises

between the brain in reference to ideation and the motor response in the nerves and muscles of speech. This form of massage with galvanism, and training of the muscles of articulation, is the only efficient cure. With regard to the value of massage and lung gymnastics in the early stage of consumption and in asthma, there can be no question of doubt whatever. Spinal massage and rowing are in my experience of great value; for chest gymnastics no form of exercise equals it. Of course there is all the difference between rowing a race,—and so unduly exercising every muscle in the body, quickening the circulation, and ruining a heart if it be weak,—and rowing leisurely and systematically; the latter invigorates the muscular system, and strengthens and invigorates the functions of the respiratory and circulatory organs.

Massage in Consumption and Asthma.

I will now, if you please, direct your attention to the parts below the diaphragm. I have said all I can conveniently say in this demonstration concerning the parts above the diaphragm contained in the

Parts below the Diaphragm.

cavity of the chest, and I now come to those contained in the cavity of the belly, the first of which is the stomach. You know full well that all animal matters are acted upon and dissolved in the stomach, whilst vegetable and farinaceous material should be broken down, pulpified, and homogeneously mixed altogether. This is done by the solvent fluid the gastric juice, aided by the rhythmical action of the muscular walls of the stomach; the fluids of the stomach are absorbed by the veins. Now dyspepsia or indigestion may be due to a deficiency or altered condition of the gastric juice, to a congested state of the mucous membrane, to an inability on the part of the veins to absorb, and to deficiency in muscular tone and muscular movement and spasm. Now the form of atonic dyspepsia, which concerns me from the massage point of view, is perhaps more troublesome than all the others; and the more the patient takes bismuth, alkalies, pepsine, and charcoal, so much the worse does the indigestion become. The pain is

Massaging the Stomach.

Influence of Spinal Massage in Dyspepsia.

often intense, and comes on paroxysmally like neuralgia, which is, however, one of its factors. Now, one cause of this dyspepsia is an irritable spine, of which we shall have to say more directly, and these cases — which as a rule will not yield to medicine — I not unfrequently cure by spinal galvanic massage, and by petrissage, and tapotement of the stomach itself.

In a patient whom I recently had under my care, mere pressure upon the spine of the ninth dorsal vertebra would produce violent flatulent belching, but this condition could not be produced after the spine had been massaged. Massage of the liver is useful in neuralgia and chronic inactivity of this organ, particularly in those persons who are of a phlegmatic temperament, and who lead an unhealthy and sedentary life, and who live too freely; but it is especially beneficial in those cases or in those individuals who are harassed and worried by business or some other cause, and the gall bladder is unable, from

Massage of the Liver.

paralysis of its walls, to eject its contents into the intestine. I need scarcely say that active movement on the part of such patients is of as great importance as local treatment,—perhaps exercise on horseback is better than any other. The circulation is thus quickened, the hindrance to the discharge of bile gradually overcome, and as soon as the bile enters the intestine many of the bad symptoms disappear. But a large number are unable, from age or indisposition, to avail themselves of movements by active exercise, and it is in such as these that massage is of the utmost value. I am one of those physicians who, by the way, are not numerous, and who believe that this form of paralysis of the gall bladder gives rise to more of the common ills of life than are usually attributed to it. Many of my patients who complain of indigestion, morning retching, distention of the bowels, flatulence, depression of spirits, lethargy, weariness upon exertion, and inaptitude for their daily avocations, with constipation, are

Massage of the Gall Bladder.

frequently the victims of paralysis of the gall bladder. The urine is usually high-coloured and loaded with lithates, and the fæces are pale white or clay-coloured. It is of no permanent use to administer to such patients cholagogues or those purgative medicines which stimulate the liver to secrete bile, for by so doing the cause is increased, and the effect is of the most temporary character, if it is of any use at all. The remedy is galvanism and massage, applied to the gall bladder itself; Turkish baths and hot baths are worse than useless. There are three main factors for the production of this condition of the gall bladder—(1) the deficiency of the normal nerve force either to the gall bladder or the common duct, or to both; (2) inspissation and thickening of the gall from retention; (3) the formation and deposition of cholesterine or gall stones. In either case, massage and local stimulation is the remedy. I have seen such cases where the gall bladder has been distended to an enormous size. The patients have

Biliousness from retention of Bile in the Gall Bladder.

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become jaundiced and emaciated, and cancer has been diagnosed. This is an extreme instance, and I would rather draw your attention to those cases which are very common in everyday practice, and where the paralysis is of that kind which is produced by the same cause as constipation.

Massage in Constipation.

Massage of the belly in ordinary and severe constipation next demands some notice; and those who have carried it out thoroughly can no longer doubt its influence. Irregular action of the bowels seems to be a cause for complaint amongst nineteen people out of twenty; and patients will often say, 'As long as my bowels are acting regularly I am all right, but as soon as they get out of order I am all wrong, and especially when I take purgative medicine; and the nuisance is, that when I begin to take purgative medicine, I am compelled to continue to do so, or my bowels would not act at all.' We can truly say that no single purgative medicine acts alike upon any two individuals. It is

scarcely necessary to allude to the causes of constipation further than to say, the chief and most common cause is of nervous origin, giving rise to deficiency of muscular or peristaltic action, or to a collection of fæces in the lower bowel, producing inactivity of the levator ani and accessory muscles concerned in the act of evacuation. As a rule, it must be assumed that habitual constipation is an affection the cause of which must be sought in spinal exhaustion or irritability, or the two states combined. I will now show you the process for bowel massage which is described in Busch's work, to which I have before alluded. It is the method adopted, so says Dr. Busch, by an apparently very dexterous and practised French masseur, M. Laisné. I place the patient in this way, with the upper part of the body rather high, the legs somewhat separated. I then place both my hands thus on both sides of the abdomen, and tell the patient to relax his muscles completely, so that the external pressure shall reach the intestines unin-

fluenced by resistance. I then perform thus a tolerably powerful double, but not forcible, rubbing with both hands in an opposite manner, my left hand somewhat forcibly upwards and my right hand downwards. This first operation should last from thirty to forty seconds. Then I place my right hand so over the region of the jejunum, pressing and rubbing over the intestines generally in an undulating manner. Now I come to the cæcum, and I follow the course of the ascending, transverse, and descending colon, and repeat these manipulations two or three times. I must admit that to myself this seems rather a homœopathic dose of massage; and although I am not at all inclined to extreme measures, I continue my own process for a much longer period, and in addition I grasp the muscles and roll them so in my hands, and knead the bowels by a succession of rapid movements, after this fashion of kneading.

In obstinate constipation, known as ileus, where the cause cannot be always

ascertained with any degree of certainty, and also in invagination of the bowel, where the patient's life is in danger and nothing is left apparently but the surgeon's aid to solve the problem, carefully applied massage to the bowels by the physician should be had recourse to before the surgeon be allowed to operate. I have in my mind a case which occurred in my practice some years ago of a lad about thirteen years of age. It was considered to be a case of invagination; and the lad's condition was so extreme, and the symptoms were so alarming, that the surgeon's aid was requisitioned, and whilst the boy was being placed under chloroform I. commenced to manipulate the bowels, and quite suddenly a change in the abdomen came about,—flatus was discharged freely, and the boy's life was saved without operation. Let me here say that massage to the abdomen in severe cases should never be performed by an ordinary rubber. It is quite necessary that the operator should be either a physician or surgeon, who not

only knows how to manipulate, but who has a thorough knowledge of the natural position of the parts.

Massage of the Spleen.

Massage of the spleen should be had recourse to in all those cases of nerve disturbance which are the result of malarial and tropical fevers, and Roman fever. These cases are exceedingly numerous, and they are not unfrequently associated with a train of symptoms which at times seem to make life intolerable. Shiverings, fever, sweatings, sensibility to atmospheric changes, headaches, furred tongue, etc., are some of the more common symptoms. In such cases as these, general massage and localized splenic massage are decidedly aids to quinine and other medical treatment.

Massage of the Kidneys.

Massaging the kidneys when they contain gravel and calculi is most useful. Deep petrissage and tapotement are necessary, and the operation should be performed daily, and in this manner, for a period of two or three months; the attacks of severe pain diminish in frequency and intensity,

and eventually the stones are passed into the bladder.

Massaging the ovaries is of the greatest value, and demands some consideration. In Dr. Weir Mitchell's work *On Diseases of the Nervous System, especially in Women*, at pages 225, 226, he speaks of the trouble produced by misplaced ovaries, and the good effects of massage in setting them right. He writes: 'Misplaced ovaries cause, in my experience, a great deal of trouble; but both Professor Goodell and I have seen a number of cases in which this annoying complication righted itself spontaneously during treatment by rest. In one of these cases the misplacement was so extreme, and the symptoms caused by it so grave, that the propriety of double ovariotomy was more than once discussed. We were pleasantly surprised, as the treatment progressed, to find a gradual slipping upwards of the ovaries, until at last they regained their usual place. This change accompanied a remarkable gain in vigour and in flesh. I have never yet been able

Massage of the Ovaries.

Misplaced Ovaries.

to make clear to myself precisely why, under these circumstances, the ovaries should be drawn up; but Professor Goodell's opinion in a matter of this kind must be far better than mine, and as he thinks there is a competent physical explanation, I give his remarks in full: "The ovaries should be daily replaced by atmospheric pressure, the knee breast posture; and the result is that they finally go up to stay up."'

Ovarian Congestion.

Under the influence of the general gain in health, and the local handling of the masseuse, the organs cease to be congested. Then the increased deposit of fat on the abdominal walls, the omental apron, and around the viscera, to say nothing of the needful fat padding in all the pelvic nooks, increases the retentive power of the abdomen. That the ovaries are prone to congestion is not a matter for wonder, when we take into consideration the series of periodical processes which go on in women every month, for a long series of years, sometimes interrupted by pregnancies,

sometimes by lactation. At each menstrual period, one or other ovary becomes swollen, one or more of its ovisacs opens and admits of the escape of the contained ovum, which passes through the fallopian tube into the uterine cavity, which becomes excited, and receives more blood at this juncture. Of course the sympathy between the ovary and the uterus at this period is of the most direct kind, and the general disturbance or change in the normal balance of power in the nervous centres must not be forgotten. When the ovaries are over-distended with blood, and displaced by their own weight, there is more or less severe abdominal pain, particularly on pressure, swelling and tenderness perhaps in one or both groins extending to the loins. If this state of affairs is allowed to continue, the ovary, after repeated attacks of congestion, becomes permanently enlarged and hardened, and there can be no question about the value of electric massage in these states, and of the necessity for doing something,

Electrical Massage for Ovarian Congestion.

especially after absolute rest has failed in its object. My attention was first called to the value of electrical massage in these cases by a German physician, Dr. Sach of Wiesbaden, who is an accomplished masseur and electrician, and I have since practised it with great success. At the period of change or the climacteric period of a woman's life, there can be little doubt that even the most healthy are more or less influenced, the normal balance of power is unquestionably disturbed in every case without one single exception; and the reason why some women are less influenced by this disturbance than others, is simply because they are vitally stronger, of an unsympathetic temperament, and of more than ordinary resisting power. Subjectively, however, will has its influence curtailed; hence we find women strong in mind as well as body break down at this period of their lives, and can only exclaim, 'How have the mighty fallen!' and how? and why?—but it is so, and further explanation

Climacteric Period in Women.

here is unnecessary. We see mental changes of all forms, and we see bodily changes of all kinds. This abnormal climacteric perturbation demands massage, 'ovarian, uterine, and spinal.'

I now come to the consideration of another form of ovarian affection, which is perhaps of more importance from the massage point of view than either of the others I have just referred to, and it is to M. Charcot, of Paris, that we are indebted for much that we know of this subject. He calls this peculiar form of ovarian pain, Ovarian hyperæsthesia. In this country we usually call it the hysterical ovary, because it gives rise to so many of the vague and distressing symptoms which are called nervous or hysterical. This sensitiveness of the ovary giving rise to painful sensations when the ovarian or iliac region is touched is a frequent symptom in hysteria, and is often held by the surgeon as a point indicative of hysteria in many women who come under his observation with assumed joint disease, notably the hip joint. No

Hysterical or Nervous Ovary.

doubt this painful ovary is more frequently on the left side, but it may be on the right, or it may be on both sides. Oddly enough, however, I have seen precisely the same iliac pain in hysterical men on the left side, who are destitute of ovaries,—in fact, I have such a case under my care at the present moment, it is associated with great nervous prostration. This pain may be very sharp, so that patients shrink from the slightest touch and the weight of the bedclothes becomes intolerable. On the other hand, the painful ovary requires some pressure to discover it. Charcot marks out the exact focus of this pain, and it is well for your guidance that I should show it to you.

Position of Ovary.

From a line uniting the anterior superior spines of the ilia, let fall the perpendicular lines which form the lateral limits of the epigastrium, and now see at the intersection of these vertical and horizontal lines, just where I have the point of my finger, you will find the focus of pain. Deep exploration of this region (and, remember, I am giving you M. Charcot's

own words) allows us readily to recognise part of the superior inlet, which describes an inwardly concave curve; this is our guiding point. Towards the middle part of this rigid crest, the hand will usually meet with an ovoid body, elongated transversely, which when pressed against the bony wall slips under the finger. When this body is swollen, as often happens, it may attain the size of a small egg; but, with a little experience, its presence can be easily ascertained. When so ascertained its characters become manifest and specific; and the patient, if by nature hysterical, will feel by this pressure certain sensations which she has often felt before *without pressure*, just prior to a hysterical attack. Hence the ovarian region is that from whence usually arises what is known as the Aura hysterica; and it has been observed that compression of the ovarian region in hysterical subjects simply produces artificially the series of symptoms that spontaneously present themselves in the natural course of hysteria. If there

Hysterical Aura.

are marked signs of hysterical, hemianæsthesia, paralysis, and contraction of limbs, these phenomena will be found to exist on the same side as does the painful and over-sensitive ovary. I have just told you that ordinary pressure made upon an over-sensitive ovary in a hysterical woman will produce the symptoms of hysteria, but, if you please to remember it, you will find that energetic compression made upon the same ovary cuts short an attack of hysteria when it is coming on, and even so when the patient is in a state of convulsion. Before I leave this subject, and as it refers to manipulation, I will give you in M. Charcot's own words the following account: —'A patient suddenly falls to the ground with a shrill cry, loss of consciousness is complete, the muscles are rigid, the body is forcibly bent backwards, the abdomen is prominent, greatly distended and resisting.'

Ovarian Pressure for Hysteria.

The best condition for a perfect demonstration of the effects of ovarian compression in such a case (hystero-epilepsy) is to lay the patient horizontally on the floor,

or if possible, on a mattress. The physician then, kneeling on one knee, presses the closed hand or fist into that iliac fossa which he had previously learned to regard as the habitual seat of the ovarian pain.

At first he must throw all his strength into the effort, in order to vanquish the rigidity of the abdominal muscles; but when this is once overcome, and the hand feels the resistance offered by the rim of the pelvis, the scene changes, and resolution of the convulsive phenomena ensue. The patient soon begins to make attempts to swallow, and with continued pressure all the phenomena disappear. If you remove the compressing agent upon the ovary, and again apply it, you can stop the seizure or allow it to recur as often almost as you like; and yet, would you believe it, a proceeding so simple and efficacious has fallen almost entirely into disuse. Of course I have quoted, from M. Charcot's work on *Diseases of the Nervous System*, an extreme case; but do not forget this, that the ordinary hysterical seizure

can be stopped even by the patient by doubling herself up and exercising pressure in the ovarian region. From this I am sure you will realize the fact, that the ovary exercises a very direct influence upon the nervous system in women who are highly nervous, and there can be no doubt in my own mind about the value of massage in these cases. This is a subject of great interest, but I must pass on to—

Massage of the Uterus.

Massage of the uterus. Mercado in 1513 advises in his work the use of frictions on the abdomen, with the object of reducing the womb, and in hysterical conditions, but my experience and practice is quite in accord with that of Dr. Weir Mitchell. It is as follows:—'In the case of married women I make, or cause to be made, a thorough examination, to begin with. If the patient be a virgin, and there seems little reason to suspect misplacement, I trust to general treatment.

Fissure of the Womb.

Should there be grave fissures of the neck of the womb, or perineal rupture, I prefer

to have these relieved at once if the patient be in a moderately good state of health; but if the case be one of exceptional feebleness, I prefer to delay all surgical interference until the improved conditions which follow the massage, diet, and rest treatment offer a better chance of mechanical interference.' There is a class of affections by which the womb, through inflammation (peri et para metritis), becomes adherent to its surroundings, and not only becomes displaced, but gives rise to the most uncomfortable dragging sensations, to sterility, and to hysteria, and other nervous troubles, and it is a question how far these adhesions can be removed by manipulation. There are some physicians who adopt most heroic means to accomplish this object, by fixing the womb and performing violent rubbing action, pressing, etc. I do not approve of this mode of procedure, neither do I recommend it to you.

Adhesion of the Womb.

In reference to massaging the uterus, I must say, from my own personal experience, that abdominal massage of the

Abnormal Positions of Uterus.

womb is of the greatest possible value, and I do not think it is resorted to as often as it should be; and, moreover, I firmly believe if the uterus were properly manipulated through the abdominal walls (the bladder and the bowels being previously relieved of their contents), and in this way only, the various wretched and disgusting mechanical supports would be entirely superseded. You must remember that these abnormal flexions and versions are frequently the result of a loaded bowel, and abdominal massage, by stimulating and relieving the bowel, permits the womb to resume its normal position. You know the womb is something like this pear in shape; it is easily movable, being suspended by bands of fibrous tissue called ligaments, and by the fallopian tubes through which the ovum travels from the ovary into the uterine cavity, so that it is permitted by nature to move freely about in almost every direction; it is the most movable organ in the body, and when it becomes top-heavy from the enlargement

Shape of Uterus, etc.

of this part, which is called the fundus, from congestion, or from other causes, it becomes misplaced, and it is then said to be retroflected or retroverted. Let me once more say that I thoroughly believe in the benefit to be derived from abdominal massage in these cases, and there is no remedy so valuable for prolapse of the rectum as abdominal massage.

Massage in Spinal Exhaustion.

Massage in spinal exhaustion, spinal congestion, and spinal irritability. If nervous disease is to continue to increase as it does at present, I am quite sure that more attention will have to be given to the spinal cord, both in diagnosis and treatment. What we now find is this: a patient visits a physician with anomalous symptoms; the physician with the utmost care examines the eyes, the throat, the heart, the lungs, and the liver of the patient; he is very particular to have three (at least) specimens of urine to examine, one before food, one after food, and one the last thing at night; the quantity passed in twenty-four hours is

carefully noted, and a specimen of the mixed urines is carefully examined. So well so good; the patient is told that there is nothing really the matter with him; that it is possible he may have gout at the nerves, that he does not assimilate his food as he should do, that he must alter his course of life, that he must live on a different soil, live on fish for three months, etc., — all very good advice; but how seldom, I may remark, how very seldom is the spine carefully examined! What I say is this, that the physician is not justified in telling his patient there is nothing the matter with him until he has examined the spine thoroughly. If, after examining the viscera and excreta, and everything appears healthy, and he then examines the spine, and finds it very tender in one or two spots, or that pressure upon certain spots produces functional derangement according to the spinous process pressed upon, it indicates an irritable state of the spinal cord, exhaustion, and most probably congestion. The great chain of

Spinal Examination.

sympathetic nerve ganglia which sends branches to control the vascular supply of the spinal cord, is frequently the *fons et origo mali.*

Neuralgia of the Spine.

There are some young girls who are nervous and hysterical, who suffer fearfully from what is sometimes called neuralgia[1] of the spine, but which is in reality spinal congestion. There are people who have not experienced in the whole course of a long life what a headache is, and they cannot have much sympathy for those who so suffer; and the same remark applies to the spinal cord. I am not referring now to mere backache and muscular rheumatism, but to the spinal cord itself. If the back be examined, and pressure be made upon the spinous processes, it may be found that all the dorsal spines are exceedingly tender; but it more frequently happens that there are two distinct tender areas, namely, from the seventh cervical to the

[1] *On Neuralgia.* By Dr. Stretch Dowse. Bailliere, Tindall, and Cox, King William Street, Strand, London.

The Tender and Irritable Spine.

third dorsal, and from the eighth dorsal to the second lumbar. This tender spine, which, I repeat, is the spine of exhaustion and of congestion, gives rise to every conceivable form of perverted sensibility. It may of course give rise to positive pain and neuralgia, and can be clearly traced from the spine along the course of the nerve to its extremity, and it gives rise also to temporary changes in the joints, accompanied with swelling and pain, or to a general condition of myxœdema (remember I do not say that myxœdema is always associated with an irritable spine). Now, I must for one moment call your attention to one or two of the symptoms which are associated with this condition. This painful spine is often relieved by pressure. The pain is sometimes agonizing in the spine itself, and every muscle of the chest seems more or less tender. The arms are so heavy and tired upon the least exertion, that brushing the hair is almost an impossibility; the tips of the fingers are sometimes unable

to discriminate between the normal variations of touch, and the muscular sense is defective; creeping and other sensations over the skin are almost constant accompaniments. It certainly is not natural to be made uncomfortably aware that you have a backbone or spinal cord; but patients suffering from this form of spine say that their spine seems as though it were on fire, or that ice-cold water were being poured down the back; the legs are heavy and wooden-like from the knee downwards, and the feet feel burning when they are in reality cold; the least exertion produces great fatigue and weariness.

I might tell you that with this form of spine every function of the body may be deranged. The patient may suffer from difficulty of breathing, palpitation of the heart, and irregular pulse, sleeplessness, flatulent indigestion, constipation or diarrhœa, and paralysis of the bladder; and what is more, they are moody, melancholy, and irritable, certainly as they may well be. Many years ago it used to be my practice

to blister this condition of spine, and with unquestionable advantage; now I adopt massage, either alone or with galvanism, and I must say without equivocation that my success has far exceeded my anticipations. I will now both galvanize and massage the spine of this patient in order to show you how I do it. I first make the patient recline upon the belly, placing the arms well extended over the head. You see I have full play of the back. I first effleurage the back in this manner with the tips of my fingers, and the palm of my hand; after this I pick out the painful spines, and I gently apply a sponge made very hot with boiling water. If I do not reduce the sensibility, I paint the painful parts with a cent. per cent. solution of cocain, and then I petrissage the whole course of the spine, and finally effleurage with my knuckles downwards in this way, and with the back part of my hand upwards, as you now see; after this, I apply the continuous galvanic current, and after this, in some cases, I apply plaster. I

Demonstration in Spinal Galvanization and Massage.

assure you this is a process which requires more than ten minutes, but when done it must be done well, and such treatment will be far more effective than any internal remedies you can administer.

Chronic Spinal Exhaustion.

I have now to say a word or two about chronic spinal exhaustion, which differs from the acute form, which I have just described to you. After the age of fifty years backache must not be passed over lightly, for it may be indicative of internal mischief; but there is a class of cases which will be greatly benefited by spinal massage in men and in women too who never experience backache or pain in the back. It is well known that in many forms of paralysis, although the spine is the seat of the mischief, no pain is experienced in the back in the ordinary way. You must, however, remember that disease of the membranes, of the spinal cord, and bodies of the vertebræ, are invariably associated with pain; and where the posterior sensory nerves are influenced in their passage through the vertebral

foranima, very severe neuralgic pains are experienced. I merely mention this in passing, so that you may have an idea of the seriousness or otherwise of backaches.

Lumbago. Men are much more subject to lumbago and sciatica than women; but women, on the other hand, are much more frequently

Backache. the subjects of backache than men. These backaches of women are usually at the lower part of the back and at the tip of the seat. They give rise to great discomfort, and are distinctly of reflex, sympathetic, or neuralgic origin; and are more frequently than not brought about by uterine disturbance, and not un-

Railway Spine. frequently by piles. Allow me for one moment to draw your attention to what is now called the 'railway spine.' I think some consideration of this question of the highest importance, and I also think the timely use of massage of the greatest value; so, please, follow my observations with due care, for had I not been thoroughly conversant with Mons. Charcot's views upon this subject, I

should have failed to have grasped the exact nature of many cases concerning which my opinion in consultation has been given. In *Le .Progres Medical* (1885), M. Charcot has written a series of articles upon 'Hysteria in the Male.' Now, male hysteria is much more common than is generally supposed. M. Charcot says:—'The subjects of railway accidents raise actions for pecuniary damages against companies, and large sums of money may be at stake. I repeat, however, that hysteria is frequently the basis of such actions. Those grave and obstinate nervous conditions which result from railway collisions, of such a nature as to render the subjects of them for many months, or even years, unfitted for their usual occupations, are frequently neither more nor less than hysteria, and nothing but hysteria.

'A profound knowledge of the subject and of the conditions under which it may originate will be all the more useful, seeing that the nervous complications may

arise independently of traumatism, and are simply the consequences of nervous psychical commotion arising from the accident, and that frequently they do not appear immediately, but become manifest some time after the injury.

'Thus a man who has received a fracture of the thigh may be incapacitated for work for only three or four months, whilst another man who may have sustained nervous injury, apparently of much less gravity, may be incapacitated for work for six months or a year, or more.' From my experience, it is a difficult matter to persuade either a judge or a jury that a man is incapacitated from following his occupation because he is suffering from hysteria; nevertheless, such is the case. I don't believe that these cases of severe hysteria and hystero-epilepsy, as mentioned by M. Charcot, rarely if ever occur in this country, but three cases have been brought under my notice through the kindness of Dr. Gibson, Dr. Farr, and Dr. Brighouse during the past six

Cases of Railway Spine.

months, which have presented decidedly hysterical symptoms of an extraordinary character.

I will give brief notes of one case, merely as an illustration. Mr. B., aged thirty years, a diamond setter, of robust health—in fact, an athlete and a champion bicycle rider of more than ordinary muscular development—a temperate man in every way, met with an accident on the Underground Railway, which shook him greatly, and although not rendered unconscious he was stupid and dazed until the following day. No trace of injury, except some slight bruising upon the left shoulder, could be detected. In a few days he recovered to a considerable extent from the shaking he had received, and in a few weeks went to the sea-side, hoping to regain entirely his health and strength; but, as far as I remember, about two months after the accident nervous symptoms gradually but surely supervened; in other words, psychical commotion became manifest. He tried to work, but signally failed, and from

an even-tempered man, an athlete, and a good husband, fond of his children, his temperament and his character became completely changed; he lies in bed looking the picture of misery, pale, thin, and dejected. On one occasion, without any cause, he attempted to put an end to his wife's life, and the society of his children was utterly distasteful to him. He was taciturn and distrustful; he bursts at times into a furious and uncontrollable fit of rage, and then again he cries and sobs like a child; he has what he calls horrible dreams, and is fearful of doing anything; he walks with evident difficulty,—there is no active paralysis, and the knee reflex is greatly exaggerated. This is a case typical of the railway spine as we see it in this country, or rather, it would be more correct to call it the railway brain.

Now, lastly, I will say a word or two to you concerning the rest and diet of nervous, hysterical, and exhausted patients, who are

Rest and Diet, especially in Nervous Exhaustion of Women.

at times the *bête noir* of a practitioner's existence. It is to Dr. Weir Mitchell, of Philadelphia, that we are indebted for a special and most successful form of treatment. Dr. Mitchell's very practical little volume is entitled *Fat and Blood, and how to make them.* There are five points in this treatment for you to remember,—first, Seclusion; second, Rest; third, Massage; fourth, Electricity; fifth, Dietetics and Therapeutics. The class of patients to whom this form of treatment is peculiarly applicable, are those persons who tell you that their nervous exhaustion is so great that everything tires them. Women grow thin and pale; they cannot even sew, write, read, or walk, and by and by the sofa or the bed is the only comfort; they sleep badly, and are constantly wanting stimulants and tonics. Then comes, truly enough, the mischievous rôle of bromides, opium, chloral, and brandy; uterine troubles, dyspepsia, and constipation are also complications. The fate of

these women is at last the bed, and they eventually form lamentable examples of all the strange phenomena of hysteria. Wendell Holmes has said, in his decisive phrase, that a hysterical girl is a vampire, who sucks the blood of the healthy people about her; and says Dr. Mitchell: 'I may add, where there is one hysterical girl, there will be, soon or late, two sick women.'

Treatment. With regard to treatment, the patient must remain in bed for six weeks or two months; the rest must be entire, absolute, and complete, and the patient must even be fed by the nurse. The masseuse and the nurse must never talk to the patient about her ills, but rather let them tell the patient to speak of her aches and pains to no one but herself. Next comes the process of massage, which should begin about the second or third day, between meals, as I described to you in my Second Lecture. This massage must be continued daily for six weeks, or even longer. The time of two months having expired, the

patient is desired to sit up fifteen minutes twice a day, and this is gradually increased, until at the end of twelve weeks she rests, on the bed only, three to five hours daily. Even after she moves about and goes out, I insist for two months on absolute repose at least two or three hours daily. In reference to the diet of these cases, very much has to be learned and studied; and although my experience agrees with Dr. Mitchell's in the main, still I am constantly finding that special cases require special forms of diet, which, if written about, would require very elaborate definition. There are some points of broad interest and general significance which I can commend to your notice. One of the greatest troubles connected with this mode of treatment is constipation, and large quantities of milk seem to increase this tendency; still we cannot well do without milk, although in some cases I have been compelled to abandon it altogether;—possibly the best form of laxative is the cascara

Diet. cordial. Dr. Mitchell gives daily two quarts of skimmed milk, cold or warm, not hot. In reference to milk, my patients, with few exceptions, tell me that cold milk does not digest so well as warm milk, and that boiled milk produces constipation; therefore skimmed milk, either cold or warm, is to be preferred. It is advantageous in fat anæmic cases to use beef-tea instead of milk. Thus skimmed milk and beef-tea forms the early and essential part of the treatment in these cases, and by this means we certainly relieve these patients of their dyspepsia. I sometimes peptonize the milk, but, oddly enough, in my practice with little advantage. After the patient has been upon this milk diet for a few days, I increase the nourishment, not with solid food, as Dr. Weir Mitchell does, but by means of meat, stock, milk, eggs, and brandy. This, however, I do not continue for more than three days, as the patient soon gets tired of it. After

this time, about six days after the commencement of the treatment, I begin to give my patient ordinary food; and I give the day's diet list of one of my patients, just as I have copied it from my diary:—

Saturday—7 A.M. tea and bread and butter; 8.30 A.M. half a pint of milk and round of toast; 10 A.M. two eggs beaten up with milk; 11 A.M. six oysters, bread and butter; 1.30 P.M. dinner; 4 P.M. tea, bread and butter; 7 P.M. chop; 10 P.M. two eggs beaten up with milk.

Sometimes I give Valentine's meat juice, malt extract and cod liver oil, raw meat beaten to a pulp between bread and butter, cream, strong soups, etc.

One word with regard to stimulants, and I have done. In all cases of nervous exhaustion, such as we find in anorexia nervosa, stimulant is absolutely necessary, and it aids digestion and assimilation, for the reason that it rouses the digestive powers to action.

I hope in these lectures I have given you some information which you may find useful in the treatment of several classes of disease which are by no means uncommon, and which are not benefited by drugs.

THE END.

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